KENYA

FOOD FOR THE HUNGRY INTERNATIONAL

P.L. 480 TITLE II

DEVELOPMENT ACTIVITY PROPOSAL

FY 1998 - 2002

ACTIVITY COMPLETION DATE: 30 SEPTEMBER 2002

LIFE OF ACTIVITY RESOURCE REQUEST:

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Section 202 (e)
Monetization
Beneficiary Contribution
GOK
Food for the Hungry International

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1. EXECUTIVE SUMMARY

This Title II Development Activity Proposal (DAP) outlines Food for the Hungry Kenya's (FHK) program goals, objectives, activities and related financial and commodity information for the period FY 1998 - FY 2002. The document is intended to serve as both an operational plan and a point of future reference for measuring success in achieving the goals and objectives set forth.

Food for the Hungry International (FHI) began operations in Kenya in 1976 with an emergency relief program. From the late 1970s to 1989, FHK gradually transitioned from relief to development activities. In 1990, with funding from Title II, FHK began a pilot food security project in the community of Hulahula in the Central Division of Marsabit District. The success of this pilot project led to the implementation of a larger, three-year Title II-funded food security program in Marsabit District in 1994. The goal of the Marsabit Food Security Program (MFSP) was to increase agricultural productivity and production, and improve natural resource management in several communities surrounding Marsabit Mountain. In the course of the MFSP, thousands of farmers were trained in improved agricultural practices and natural resource management techniques, improved seed varieties were distributed, small livestock projects were implemented, and wildlife management structures were built. Despite these positive outputs, the program was not able to demonstrate a positive impact on agricultural productivity and production, primarily because of two external factors: 1) 1994 and 1996 were both serious drought years in Marsabit, and 2) ethnic conflicts increased throughout the period of performance. That said, we at FHK are convinced that the groundwork has been laid for future productivity and production gains given adjustments in the program’s objectives and interventions.

As mentioned above, the key goal of FHK throughout the past several years has been to increase food security among the most vulnerable populations in the Marsabit District of the Eastern Province. Based on agricultural productivity, child mortality and child malnutrition statistics, the Eastern Province is one of the most food insecure regions in Kenya (USAID, Macro International, Inc., IMPACT (1996). The semi-arid climate, recurrent droughts, declining soil fertility and increasing population pressure on the arable land base have all contributed to an increase in regional food insecurity. At any given time, a significant number of people are lacking one or more of the three basic components of food security, i.e., food availability, food access and food utilization.

In response to this problem, FHK's overall goal in its food security program from 1998 to 2002 will be to increase food availability and access and improve food utilization for approximately 27,000 men, women and children in 15 participating communities via an integrated approach in agricultural productivity and production, and child health and nutrition. Impact objectives will be to reduce morbidity and malnutrition among children under the age of five and increase

income, agricultural productivity and production at the household and community levels. In the table below, FHK's food security strategy and proposed interventions are presented within the overall framework of USAID's strategic objectives.

Table: Matrix of Food Security Strategy and Interventions

USAID Kenya Mission Sub-goal and Intermediate Results Objectives	FHK Program Component	General USAID and Specific FFP Food Security Objectives	Program Interventions	Anticipated Results	Percent of Total Title II Funding	Other Resources
Increase Food Security in Kenya and Develop and Transfer Yield-Enhancing Technologies for Smallholders	Agricultural Productivity and Production	Increased Availability, Improved Access and Increased Agricultural Productivity	Agricultural Training and Extension, Technology Transfer, Soil Conservation, Small Livestock Improvement.	Increased productivity, production and household income	70%	FHI, GOK, Benefic.
Increase Food Security in Kenya and Improved Prevention of Childhood Illnesses	Child Health and Nutrition	Improved Utilization and Household Nutrition	Promotion of breastfeeding, ORT and proper managment of diarrhea, Provision of vitamin A, De-worming, Growth Monitoring and Health Education	Decreased child malnutrition and morbidity	30%	FHI, GOK, Benefic.

The impact of the above interventions will be measured using a baseline survey in order to determine pre-program status and then by monitoring and evaluating progress in the various indicators on a monthly, semi-annual, mid-life of activity and end of life of activity (LOA) basis. A modified 30-cluster KPC survey methodology will be used in both agriculture and child health and nutrition. Baseline, monitoring and evaluation data will be analyzed using Epi-Info (v. 6.1), which was developed by the Center for Disease Control in Atlanta, GA and has been used with great success across a wide spectrum of activities in developing countries. Over the next year, select FHK staff will be receiving intensive training

in baseline methodology, Epi-Info, monitoring and evaluation. This training will allow FHK to gain the tools and skills necessary for successfully measuring program results over the LOA.

The goals and objectives presented above concur very well with the food security strategy of USAID as described in the 1995 *Food Aid and Food Security Policy Paper*, the strategic objectives of the AID Kenya Mission and the strategy of the GOK. In order to achieve those objectives, FHK will need at least 3,287 metric tons of food in FY 1998 (anticipated monetization income of $631,105) with the assumption of a 10% increase per year for the period FY 1999 through FY 2002. In addition, we will need Section 202 (e) financial support of at least $88,000 in FY 1998 with a 10% annual increase over the life of the activity.

Th USAID/Kenya Mission is strongly supportive of FHK's food security interventions in Marsabit. The Mission views the activities as very important components in its overall strategy to improve food security in Kenya, especially in the Eastern Province, which has been racked for several years by drought and food insecurity. As shown in Table 1 above, FHK's proposed DAP interventions concur very well with the objectives of USAID/Kenya.

In addition to support from USAID/K, recent events in Kenya suggest a favorable political environment for food security interventions and impact. The GOK's Social Dimensions of Development (SDD) Policy and Strategy is attempting to implement programs for poverty reduction, including programs designed to increase agricultural productivity and production, and programs to improve the health and nutrition of the Kenyan people. Within the Eastern Province, The Ministries of Agriculture, Livestock Development and Marketing, and the Ministry of Health are both addressing the food insecurity situation in Marsabit and Moyale Districts. In addition, at the national level, the GOK has signed an agreement with USAID/Kenya to provide gifts in kind toward the implementation of FHK's Title II program with a value of approximately 20% of the total monetization budget.

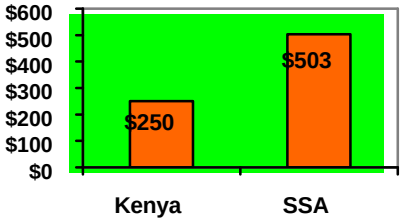
In conclusion, in the face of two major droughts and heightened ethnic conflicts in northern Kenya over the last three years, the actual food security of the majority of the region's households has worsened. However, good progress was made over that same period in FHK's efforts to help Kenyan communities receive adequate training and resources to be able to eventually increase their food security and decrease their poverty. It is hoped that this progress will continue unabated and produce positive impact through the year 2002.

2. BACKGROUND

2.1. Food Security Problem

2.1.1. National Food Security

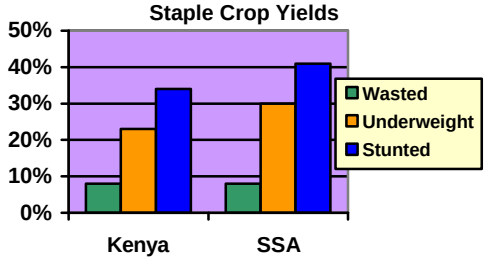
Figure 1: 1994 Per-Capita GNP



Sub-Saharan Africa has been identified and targeted by USAID Food for Peace as one of the most food insecure regions in the world (USAID, 1995). Within Sub-Saharan Africa (SSA), Kenya, with an estimated population of 28.3 million and annual growth rate of 3.8%, ranks average or below average in some food security indicators and above average in others. Kenya's 1994 per capita GNP of $250 was 50% less than the SSA average (UNICEF, 1997). In addition, Kenya had the least evenly distributed income among SSA countries over the period 1990-1994. During that time, the poorest 40% of the population received only 10% of the total household income, while the richest 10% received 62% (UNICEF, 1997).

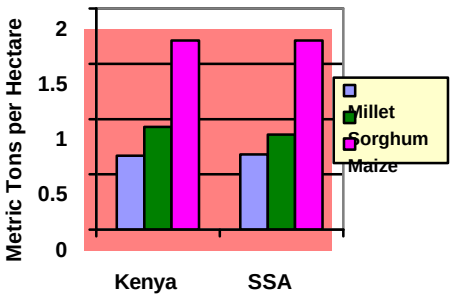
Kenya's 1995 infant and child mortality rates of 61 and 90 respectively are relatively low by SSA standards whose averages for the same period were 106 and 175. Regarding malnutrition during the period 1990-1996, 34% of the Kenyan children under five years of age were moderately or severely stunted, 23% were moderately or severely underweight, and 8% were moderately or severely wasted. These were below the SSA averages for stunting (41%) and underweight (30%), while the same for wasting (8%). That said, the daily per-capita calorie supply as a percentage of requirements for the period 1988-1990 was only 89% in Kenya while the SSA average was 93% (UNICEF, 1997). More importantly, the per capita daily calorie availability in Kenya declined from 2013 calories in 1979/81 to 1801 calories in 1987/8 (World Bank, 1990).

Figure 2: % Childen under 5 who were malnourished, 1990-1996 Staple Crop Yields



In addition to those indicators, Kenyan agricultural productivity of three important staple food crops was close to the rest of SSA in 1996. Average maize yields were 1.71 MT/HA in both Kenya and SSA. Kenyan millet yields were slightly less than the SSA average (0.67 MT/HA vs. 0.68 MT/HA), while those of sorghum were slightly more (0.93 MT/HA vs. 0.86 MT/HA) (FAO, 1997).

Figure 3: 1996 Staple Crop Yields



The data above suggest that while Kenya is better off than the SSA average with regards to child mortality and malnutrition, it is poorer and its people consume less calories per day than the average SSA country. In addition, despite its reputation in Africa for agricultural productivity and production, its northern region is very drought-prone. In that regard, 1996 data reveal that it was not much better off last year than the rest of SSA with regards to productivity of important food crops.

Finally, findings from the 1993 Kenya Demographic and Health Survey (pg. 2) revealed that,

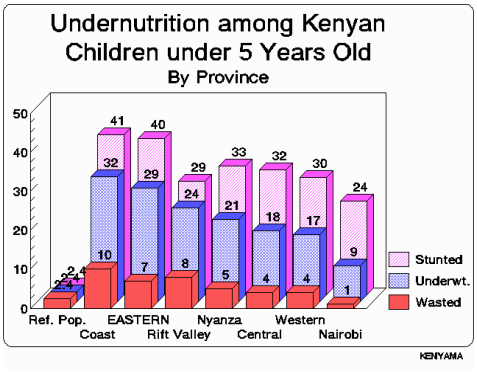
> *Despite the government's efforts to achieve food security, recurrent widespread droughts and economic pressures have resulted in a decline in per capita food availability over the past decade. Although food production has expanded considerably, it has not kept pace with the rapidly growing population. Food grain production in 1993, for example, was estimated at 2.2 million tons (MT), but the need was 3.9 MT. This represents a deficit of about 1.7 MT which must come from imports. Food aid provided about 50% of the needed imports and the rest came from commercial sources (USAID, Macro International, Inc., IMPACT).*

The above data and assessment of the 1993 DHS provide substantial justification for continued Title II food security interventions in Kenya for at least the medium term.

2.1.2. Regional Food Security

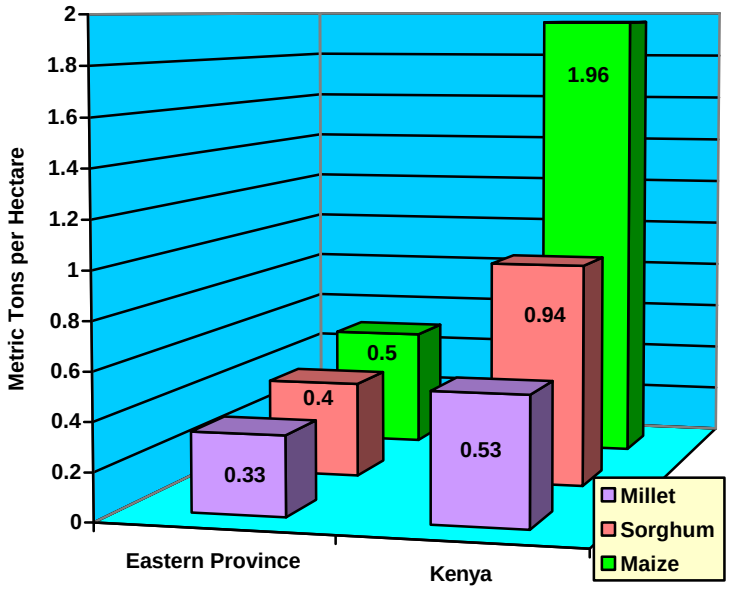
The above sheds light on Kenya's national food security situation in comparison with the rest of Sub-Saharan Africa. However, Kenya's internal food security problem is not evenly dispersed geographically throughout the country. In general, the Western, Central and Nyanza Provinces are relatively food secure areas. The primary region of food insecurity lies in the Eastern and Coastal Provinces, which are located in the northeast and east of the country.

Data on child malnutrition in Kenya show that the Coastal and Eastern Provinces have the highest incidences of stunted and underweight children in the country (USAID, Macro International, Inc., IMPACT). In the Eastern Province, where FHK proposes to carry out its Title II food security activities, levels of malnutrition are the second highest in Kenya and almost identical to the averages for SSA (see Figure at right).



In addition to nutritional needs, regional agricultural productivity data for major cereals reveal that the Eastern Province of Kenya has been less productive than the rest of Kenya over the past few years. In the drought year of 1996, maize, sorghum and millet yields were close to zero MT/HA in the Eastern Province, while they were only slightly less than normal in the relatively more food secure regions. In 1995 (a relatively normal year), maize yields were 74% lower, sorghum yields were 65% lower, and millet yields were 38% lower in the Eastern Province than in Kenya as a whole (FAO, 1997; Marsabit District Agricultural Office, 1996); (See figure 5). Although these data only represent two years, they nonetheless show the food availability needs in the Eastern Province.

Figure 5: 1995 Staple Crop Yields



Both the child malnutrition and agricultural productivity data alone argue for the presence of Title II food security activities over the next several years. Added to that is the problem of recurring droughts, which have drastically increased food insecurity in the past decade. If food security activities are to be conducted in Kenya, they should definitely be carried out in the Eastern Province.

2.1.3. FHK Food Security Targeting

In response to the need to geographically target food insecurity, FHK is proposing to implement its Title II food security activities in two districts of the Eastern Province—Marsabit and Moyale—shown below in the north central section of the Map of Kenya below.

Map Of Kenya

Marsabit and Moyale Districts, located in the semi-arid zone, are among the most food-insecure Districts in the country of Kenya. Increased vulnerability to food insecurity has resulted from drought-induced crop failures, increased population pressure on the scarce arable land base, deforestation and subsequent ecosystem alterations, shifts away from traditional drought-tolerant crops, land constraints, stagnant yields, limited knowledge of good child nutritional practices, and political instability.

Over the past four years, FHK has primarily carried out its food security interventions in the Central Division (CD). This division represents the largest area (2,090 km2) of arable land in Marsabit District. As a result of this "abundance" of productive land, nomadic pastoralists—who lost their animals due to recurrent drought pressure or theft related to tribal clashes—have settled and taken up farming in the CD. This in-migration has caused the population of CD to increase from approximately 4,000 people in 1971 to over 35,000 people in 1997, thus rapidly taxing the arable land base.

In addition, the clearing of marginal lands has greatly increased the amount of soil erosion and has reduced soil fertility throughout the region. The dramatic rise in population has also increased the demand for food, fuel wood, and water. These phenomena, combined with a decrease in per capita crop and livestock yields, have quickly turned Marsabit into a food-deficit region and created an increasing reliance on expensive foods—primarily maize, beans and potatoes—transported from the high-potential highlands of the southeastern and central regions of the country. Finally, the increased dominance of these imported crops in the local dietary makeup has resulted in a shift away from traditional drought-tolerant crops, which has in turn contributed to an increased risk of crop failure.

The annual rainfall of Marsabit and Moyale Districts is between 400 and 800 mm spread out over two crop seasons. Although this rainfall is normally quite adequate for cultivation, there have been cyclical droughts over the past decade. As a result, crop failures now occur on a regular basis. The World Bank has estimated that the probability of crop failure for maize is 10-25 percent in agro-climatic zone IV (Transitional) and 25-75 percent in zone V (Semi-arid—the zone that covers the Eastern Province). Due to an increasing preference for maize, farmers often decide to plant maize even when there is a substantial risk of crop failure. While millet, sorghum and root crops like cassava and sweet potatoes are more tolerant of dry conditions than maize, they yield less than maize under favorable conditions.

Natural resource management challenges are also numerous in Marsabit Division. The Marsabit Mountain ecosystem acts as a water catchment system, sustaining a rainforest with a high relative humidity. Unfortunately, the decreasing annual rainfall resulting from deforestation has not only reduced farm productivity, but has also had a negative effect on the animals of the National Forest Reserve, home to over 400 elephants. As they migrate, the animals frequently come into conflict with the local agricultural communities, destroying crops and injuring humans.

In summary, the food availability challenges are numerous. Crop yields are measurably low due primarily to the prevalence of unimproved farming practices such as late planting, poor land preparation, poor quality seeds, non-fertilization, poor spacing, and inadequate pest and weed control. This situation is compounded by drought, ethnic conflicts, wildlife damage, eroding soils and post-harvest storage losses.

Further, poor food utilization is also prevalent in the Eastern Province in the form of poor infant feeding practices, high prevalence of worms, poor dietary management of diarrhea, and vitamin A deficiency. These problems combine with those related to availability to further impede the attainment of food security in the region.

The challenge ahead for the proposed food security program is two-fold: 1) to change the practices that have led to decreasing food availability and access by training and providing inputs to smallholder households so that they can produce enough food to meet both consumption and income needs, and 2) to improve the poor food utilization that has resulted in high levels of child morbidity and malnutrition by training mothers and community health workers and providing inputs so that households can better utilize the food made available to them. The following section describes the proposed program designed to achieve that.

2.2. GOK Food Security Strategy

The Government of Kenya has no specific food security strategy per se. However, its Social Dimensions of Development (SDD) Policy and Strategy (1996) is attempting to implement programs for poverty reduction, including programs designed to increase agricultural productivity and production, and programs to improve the health and nutrition of the Kenyan people. Within the Eastern Province, The Ministries of Agriculture, Livestock Development and Marketing, and the Ministry of Health are both addressing the food insecurity situation in Marsabit and Moyale Districts. That said, they have insufficient human, financial and logistical resources to solve the problems by themselves. However, with good coordination and collaboration with NGOs and other associations, the GOK remains highly committed to improving food security and is making progress to that effect.

2.3. FHK's Experience in Food Security Program Implementation

In 1990, with funding from Title II, FHK began a pilot food security project in the community of Hulahula in the Central Division of Marsabit District. The success of this pilot project led to the implementation of a larger, three-year Title II-funded food security program in Marsabit District in 1994. The goal of the Marsabit Food Security Program (MFSP) was to increase agricultural productivity and production, and improve natural resource management in several communities surrounding Marsabit Mountain.

In the course of the MFSP, thousands of farmers were trained in improved agricultural practices and natural resource management techniques, improved seed varieties were distributed, small livestock projects were implemented, and wildlife management structures were built. Despite these positive outputs, the program was not able to demonstrate a positive impact on agricultural productivity and production, primarily because of two external factors: 1) 1994 and 1996 were both serious drought years in Marsabit, and 2) ethnic conflicts increased throughout the period of performance. That said, we at FHK are convinced that the groundwork has been laid for future productivity and production gains given adjustments in the program's objectives and

interventions. To that end, the current proposal has designed its interventions to mitigate the effects of drought and ethnic conflict.

FHK is proposing a new health and nutrition component under the current DAP in order to more fully respond to the serious problems of poor food utilization in Marsabit and Moyale. FHK has several years experience implementing a maternal-child health program in Marsabit. The program has been successful in training women, community health workers and traditional birth attendants in improved preventive health practices. In addition, the program has been successful in de-worming children and increasing adoption rates of ORT in the target area. Although this program has operated independently from the Title II-funded MFSP, the two have increasingly coordinated activities in order to increase impact. It is the plan of the current proposal to fully integrate the two programs in order to create a synergy that successfully attacks the dual problem of availability and utilization.

Another negative factor that influenced program performance under the previous MYOP was a high degree of staff turnover in FY 1996 due to the FFP decision to suspend the Title II program in response to the imposition of import duties on food by the GOK. The key staff that left during that period will be replaced in the first quarter of the new DAP. The national agricultural program manager will have a degree in agronomy, agricultural extension or agricultural economics and at least three years experience designing, implementing and evaluating agricultural productivity and production projects similar to the one proposed here. The national health and nutrition program manager will have degree in public health and at least three years experience designing, implementing and evaluating health and nutrition projects similar to the one proposed here. All regional program staff will have training and experience in their relevant fields.

3. OVERALL GOALS AND RATIONALE

3.1. Food Security Problems Addressed by Activities

The food security problems that will be addressed by the proposed Title II Development Activity are divided below into two areas—agricultural productivity and production, and child health and nutrition.

Agricultural Productivity and Production:

- *Cyclical drought;*
- *Low crop and meat yields due to deforestation, soil erosion, and unimproved farming practices such as poor land preparation and planting, poor quality seeds, non-fertilization, poor spacing, and inadequate pest and weed control;*
- *post-harvest storage loss*

Child Health and Nutrition:

- *Poor infant feeding practices;*
- *high prevalence of worms;*
- *poor dietary management of diarrhea; and*
- *vitamin A deficiency.*

3.2. Goals and Objectives

The overall integrated program goal for the DAP is to increase local and household food security in FHK target areas via increased food availability and improved utilization with the primary focus being on the two BHR/FFP objectives of increased agricultural productivity and improved household nutrition. Objectives for each of the three food security components follow.

The food availability purpose objectives are to increase agricultural productivity and production and generate a process of sustained improvement in production practices via successful technology adoption rates and spontaneous replication of practices through informal farmer-to-farmer communication and training. The availability output objectives are to conduct crop trials and demonstrations, and transfer improved agricultural technology and practices to the beneficiary farmers.

The food utilization purpose objectives are to decrease malnutrition and morbidity of children under five years of age, and create a process of sustainable change in household and community health and nutrition knowledge and practices. The utilization output objectives are to increase the detection and treatment of diarrhea and malnutrition in children, improve infant feeding practices, and increase de-worming and vitamin A coverage for children.

3.3. Relationship to USAID's Food Aid and Food Security Policy

3.3.1. Agricultural Productivity and Production

One of the two principal objectives of Title II programs as outlined in USAID's 1995 food security policy paper is to *"alleviate the causes of hunger, especially by increasing agricultural productivity"* (p. 4). The paper further states that USAID historically has been involved in *"efforts to expand production of staple food crops [that] have been pursued through improvements in agricultural policies, bringing more land under cultivation, and by increasing yields on existing lands through more intensive use of inputs and through [the] introduction of improved crop varieties"* (p.15). The paper points out that although food deficits remain a problem in many developing nations, USAID funding for agriculture has been cut drastically in the past seven years, hence the need for programs that will improve productivity and expand production in those areas where arable land is not a constraint. Finally, in regard to the monetization of Title II commodities to support agricultural development activities, the paper states, *"Local currency generated from the sale of food commodities provides an important complementary resource the PVOs can reinvest in activities designed to improve food security"* (p. 18).

FHK's proposed activities of adaptive agricultural demonstration, agricultural extension, and improved crop marketing and storage are all important components of a comprehensive approach to increasing agricultural productivity and household income in the food insecure districts of Marsabit and Moyale. Production-oriented activities (demonstration and extension) will result in increased food availability in the project areas, while the increased income generated from marketing activities (crop sales) will result in improved access to food on the household level. FHK's child health and nutrition program will complement the agriculture program by providing training in improved food utilization to farm families in the same assisted communities. In all these respects, FHK's agricultural productivity and production program fits very well into USAID's objectives for the Title II program.

3.3.2. Child Health and Nutrition

The Food Security Policy Paper states that "priority will be given to Title II programs which focus on improving household nutrition, especially in children and mothers . . . (p.1). The proposed health and nutrition program will focus on one of the three legs of food security—food utilization. Effective food utilization depends in large measure upon “knowledge within the household of . . . basic principles of nutrition and proper child care” (p.5). We believe that the inclusion of a health and nutrition component in the current DAP will contribute greatly toward the accomplishment of USAID/FFP’s food security goals.

Further, one of the two principal objectives of Title II programs as outlined in the 1995 policy paper is to *"improve household nutrition, especially in children and mothers "* (p. 4). The paper further states that:

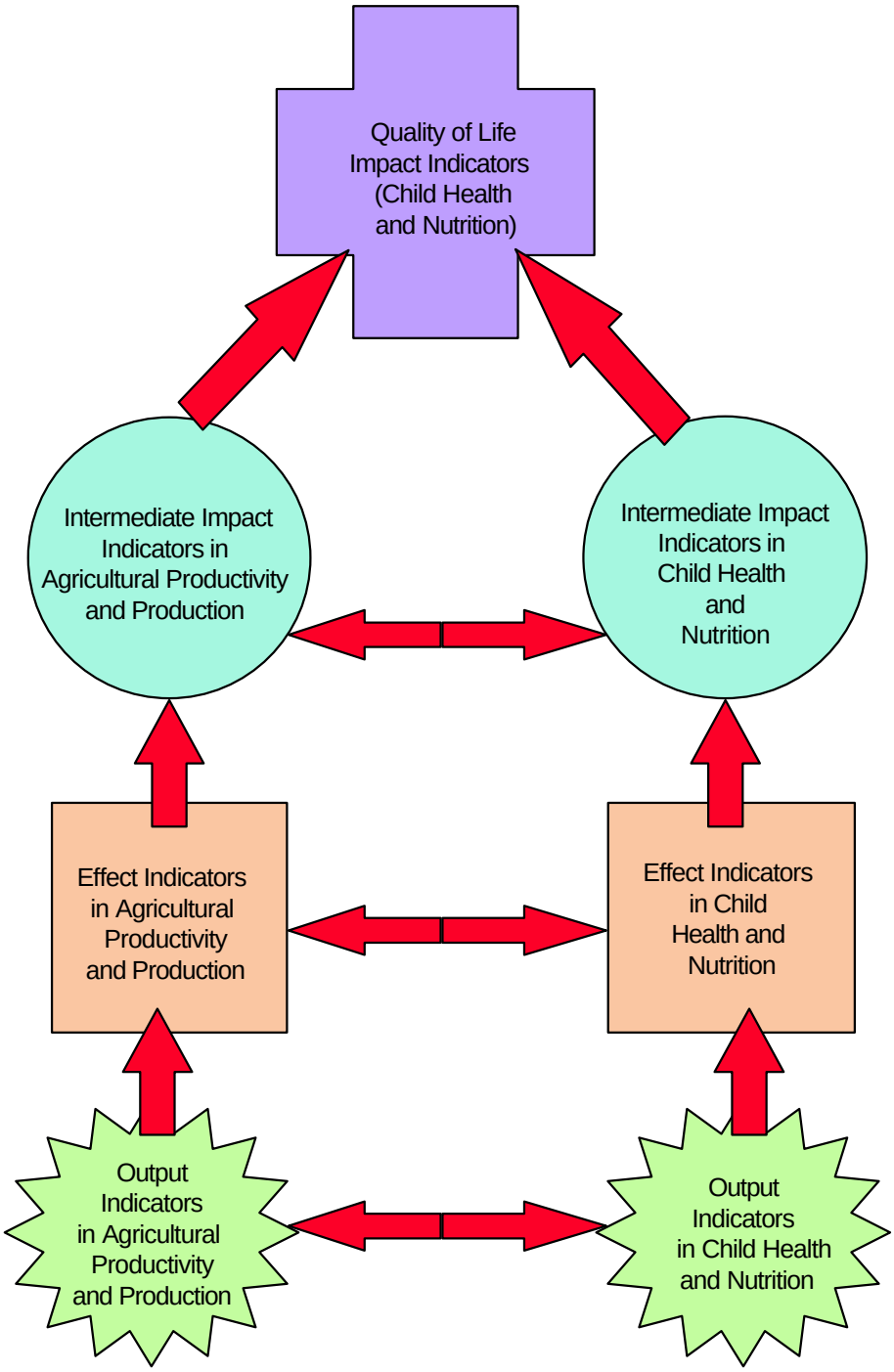
> *"food insecurity can be exacerbated by disease, poor water and sanitation systems, inadequate nutritional knowledge, and cultural conditions which affect consumption patterns. The integration of food security initiatives with other health and education programs can effectively address many of these problems. UNICEF recently estimated that child nutrition could be enhanced as well or better through prevention of diarrheal disease as through supplementary feedings"* (p. 12).

The paper goes on to point out that in order to improve household nutrition, families *"must have access to basic health care services..., family planning services and adequate post-natal care, including breast feeding...."* (p. 16). Finally, the paper recognizes the importance of integrated programs such as FHK's in achieving food security. In all these respects, FHK's child health and nutrition component fits very well into USAID's objectives for Title II programs.

3.4. Integration of Food Security Activities and Indicators

Over the next five years, FHK proposes to significantly increase food security in Marsabit’s Central Division and Moyale’s Sololo Division by integrating two programs—agricultural productivity and production, and child health and nutrition. FHK’s integration of these two components will maximize the impact on food security in the target areas as shown in the pyramid of food security indicators in Figure 6 below.

Figure 6: Pyramid of Food Security Indicators



FHK is convinced that in order to increase food security, one must address the areas of availability, access and utilization in an integrated fashion. It is insufficient to increase agricultural production or income generation, if that production or income is not used to improve household nutrition. Similarly, it is not enough to increase production and feed children more if beneficiary households have high rates of child morbidity. Thus, both components need to contribute in an integrated fashion toward achieving impact in the quality of life of beneficiary households as measured primarily by improved health and nutrition of the children.

In order to understand the pyramid of food security indicators above, it is necessary to cite a concrete example such as the training of a farmer in improved agricultural practices. A trained farmer is an output in the agricultural productivity and production component. The output, however, is not an end in itself nor does it demonstrate program impact. The training must be followed by a measurement of the effect that it has on the farmer's agricultural practice, such as field preparation and planting, seed choice, fertilizer use, pest control, etc. Similarly, the effect is not an end in itself nor does it demonstrate impact. The intermediate impact that the technology adoption has on the smallholder can be measured by the change in crop productivity and production. Again, although that is an impact, it is not the final impact to be measured. The final or ultimate impact that needs to be measured regarding the training in improved practices is the change in child malnutrition. If child malnutrition does not decrease at the household level, then the training in agricultural productivity is not having the fully intended impact.

In order to increase the synergetic impact of the food security activities, FHK proposes to implement both the agriculture and health/nutrition components in the same communities and (where feasible) in the same households. As a result of this synergy, FHK believes that the participating communities will significantly improve their food security—both as it relates to availability and utilization.

4. PROGRAM DEFINITION AND DESIGN

4.1. Agricultural Productivity and Production Component

The principal objectives of this component are to increase agricultural productivity and total production for approximately 17,220 beneficiaries in the food insecure district divisions of Cental Marsabit and Sololo Moyale. The principal strategy to accomplish those objectives is to: 1) demonstrate improved production practices, agroforestry/soil conservation techniques, livestock improvement practices, and crop storage techniques at demonstration farms, 2) train and transfer the technologies to beneficiary farmers, and 3) make extension visits to farmers' fields to monitor and evaluate progress.

Regarding Title II inputs, there will be no direct distribution of food. The program will only utilize monetary resources generated from the sale of wheat flour and will support the above activities mainly through the purchase of equipment and supplies, the payment of salaries and stipends, the costs related to beneficiary and staff training and by covering a portion of administrative costs. Agricultural program staff total sixteen and include a program manager at the national level, and at the regional level two supervisors, two agricultural technicians, six demonstration farm managers, and six extensionists.

The focal point for the above strategy is the utilization of six low-cost Agricultural Demonstration Farms (ADF) (four are already established and two new ones will be established in the first year of the DAP) staffed by FHK agricultural technicians and extensionists with each ADF serving approximately 2 satellite communities within a radius of 5 kilometers. On average, each ADF serves approximately 2,870 inhabitants. The four current ADFs were established in the previous Title II activity.

4.1.1. Specific Objectives and Related Activity Descriptions

4.1.1.1. Objectives

Objective #1: Increase the average annual agricultural production of beneficiary households in the target areas.

Sub-objective #1.1: Increase the average annual maize, sorghum and bean yields of beneficiary households in the target areas.

Sub-Objective #1.2: Increase the average annual poultry meat yield of beneficiary households.

Sub-objective #1.3: Increase the average number of hectares on which improved agricultural practices are used in beneficiary households in the target areas.

Sub-objective #1.4: Increase the average number of hectares on which natural resource management practices are used in beneficiary households in the target areas.

Objective #2: Increase the average number of months of post-harvest grain provision in beneficiary households in the target areas.

Sub-Objective #2.1: Increase the average number of improved grain silos built and used in beneficiary households in the target areas.

4.1.1.2. Rationale

As mentioned above, the principal availability-related food security problems in Marsabit and Moyale are 1) cyclical drought, 2) low crop and meat yields due to unimproved farming practices, deforestation and resulting soil erosion, and 3) post-harvest storage loss. The principal strategy to attack those problems and break the chain of food insecurity is to: 1) demonstrate improved production practices, agroforestry/soil conservation techniques, livestock improvement practices, and crop storage techniques at demonstration farms, 2) train in and transfer the improved practices and technologies to beneficiary farmers, and 3) make extension visits to farmers' fields to monitor and evaluate progress, adoption rates, and productivity and production changes.

The rationale for the above prioritization of food availability problems comes from two sources. The first is the GOK, which acknowledged in its Marsabit District Development Plan that drought has been the principal cause of low agricultural productivity and production over the past five years (MPND, 1996). The second is the agricultural program staff of FHK who have stated that low soil fertility and high erosion are two of the major causes of declining productivity.

With regard to the selected objectives and activities, the rationale also comes from two sources. The first is the positive results of years of agricultural yield research at the Kenya Agricultural Research Institute (KARI) and several of the research centers of the Consultative Group on International Agricultural Research. The findings and recommendations of KARI and four of the CGAR centers have specific relevance to the agricultural activities of FHK. They are the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in India http://www.cgiar.org/icrisat, the International Centre for Research in Agroforestry (ICRAF) in Kenya http://www.cgiar.org/icraf/, the International Center for Maize and Wheat Improvement (CIMMYT) in Mexico http://www.cgiar.org/cimmyt/, and the International Institute of Tropical Agriculture (IITA) in Nigeria http://www.cgiar.org/iita/. Their results have shown that substantial yield increases can be realized in maize, sorghum and beans by using improved agricultural practices such as those described below in the section on activity interventions. The second rationale comes from the experience of FHI in Mozambique, Ethiopia and Bolivia. These three programs have achieved substantial agricultural productivity increases over the past few years using similar technology packages.

4.1.1.3. Proposed Activity Intervention

The proposed intervention for this component is based on the demonstration of, training in and extension of improved agricultural practices and inputs to approximately 3,444 food insecure households over the LOA, which will directly benefit 17,220 people.

Demonstration and Training at the ADFs

The Agricultural Demonstration Farms are training facilities where on-site training, demonstrations, and field days are undertaken. In addition to their usefulness as training facilities, the ADFs are also used for seed bulking and to conduct trials on new crop varieties. The bulked seeds from KARI are distributed to beneficiary farmers. FHK proposes to establish two more ADFs in addition to the existing four.

The demonstration of improved agricultural practices on the ADFs forms the basis for increasing agricultural productivity and production in the target areas. Under this intervention, FHK agricultural component staff, in close collaboration with MOA agronomists, propose to identify and put into practice low-input, environmentally-sound appropriate agricultural technologies that address the most important agricultural constraints in Marsabit and Moyale. These will be prioritized based on their drought-resistance and mitigation qualities. When implemented by farmers, these sustainable practices will increase agricultural production throughout the rural agricultural sector of the districts.

The techniques to improve soil fertility and control erosion will include legume rotations, green manuring, composting, terracing, cut-off drainage systems, gully control, and planting leguminous trees. Other techniques to improve crop yields will include planting in lines, low-cost weed control, safe, low-cost pest control techniques such as IPM and the use of natural insecticides, and the use of drought-resistant seed varieties of maize, sorghum, millet, beans, and pigeon peas. In addition, grams, cassava, and sweet potatoes will also be grown and demonstrated. Improved technologies for on-farm grain storage will be demonstrated including improved models of granaries, as well as practices such as grain drying and use of natural weevil repellents. Finally, improved poultry breeds will be demonstrated to farmers. These breeds will be the offspring of local hens and foreign cocks. With a small investment, beneficiary households will be able to purchase foreign cocks to increase the average size of their chickens.

FHK demonstration trials will focus on the small farmer. As in current practice, demonstrations will be conducted under the same conditions faced by small farmers, using technologies that most farmers can easily implement. Costly or unavailable inputs will be avoided. Maintaining all activities at the farmers' level results in economic as well as environmental sustainability.

Similarly, the infrastructure of the ADFs is extremely simple and low-cost. The sites are small and buildings are low-cost and modest. The simplicity of the ADFs has a dual benefit. First, it keeps costs low, so that financial resources can be used primarily for trials, farmer training, and staff. Second, farmers visiting the ADFs can see immediately that the FHK staff are operating under the same

conditions as they do. Farmers are therefore more likely to perceive our recommendations as well within their grasp.

Two stages of training will take place in the agricultural production component. The first stage will consist of training activities that take place at the demonstration farms. The second stage will consist of activities that take place in the farmers' fields. The training of area farmers and the dissemination of improved practices will center on the use of leader farmers. As part of the agreement regarding training, leader farmers will be responsible for transferring the knowledge and skills that they gain at the demonstration farms to farmers within their area of jurisdiction. The criteria for choosing leader farmers will be:

- they must be a resident of a community within the target area;
- they must be well respected within community;
- they must be willing to cooperate with the agronomists and extensionists and allow a small portion of their land to be used for trials and demonstration; and
- they must be willing to mobilize other local farmers to attend on-site trainings.

Regular training workshops will be held at the ADFs throughout the LOA. Village Development Committees will select farmers to attend a three-month, on-site training at the ADFs. The committees will also help in the preparation of community training and other activities at the plots. The workshops will host leader farmers, ADF workers, and other selected community members. All of the technologies and practices described above will be presented in the various workshops. The principle objective of these workshops will be to introduce leader and other farmers to the practices and then provide more advanced follow-up training over time. The farmers are then encouraged to adopt these practices and use them in their own fields. The extensionists are the primary FHK staff involved in this process of transferring the practices to the field level.

Extension

The second stage of the agricultural component is the extension of ADF-based improved technologies and practices to the beneficiary farmers in the target region. To accomplish that, each FHK extensionist will provide information, training and, when necessary, inputs to a minimum of 70 farm families (350 beneficiaries) per year through both direct extensionist-farmer contact (individual and group training) and farmer-to-farmer contact with FHK-trained leader farmers. Within his/her respective zone, the extensionist will organize groups of about 20 farmers each who have an expressed interest in improving agricultural productivity and/or increasing their crop marketing opportunities. Each group will

meet regularly with the extensionist throughout the crop year, providing a continuous information exchange involving indigenous farmer knowledge and FHK-recommended practices. The crops and technologies demonstrated will be determined by the group according to their interests, field conditions, and agricultural constraints. Each extensionist will also provide on-going training to additional farmers through at least two individual farm visits per month. Extensionists will meet together regularly with the extension supervisor for in-service training and reporting.

Extension services will be expanded to reach more beneficiaries through leader farmers. One leader farmer from each group will receive intensive initial and on-going training from FHK in agricultural technologies and participatory extension methodologies. Working closely with the extensionist in their zone, each of these trained leader farmers will work with another farmers' on a regular basis, in the same manner as the extensionist. Through these leader farmers, FHK will provide services to an additional 80 farm families (400 beneficiaries) per year in each ADF zone. Leader farmers will not receive a salary and will not be considered project employees. However, in addition to the valuable technical training they will receive, FHK will provide leader farmers with small, non-cash incentives (seeds and other agricultural inputs) to encourage their participation.

Technical information to be transferred will focus on sustainable practices to increase productivity of staple food (cereal and legume) and horticultural crops, poultry, as well as technologies to improve storage and processing of farm produce. As emphasized at the ADFs, technologies to increase productivity will be environmentally sound and economically feasible. They will include areas of soil conservation and quality (e.g. field preparation without burning, planting across slopes, terracing, agroforestry, and the use of green manure crops); appropriate integrated pest management (e.g. cultural controls, repellent crops, and natural insecticides); use of improved crop varieties adapted to specific agro-ecological zones; production practices to maximize long-term yields (e.g. crop rotation and recommended spacings); and improved storage facilities and practices. If purchased agricultural inputs are desired, extensionists will help link farmers with sources of these inputs and train farmers in their appropriate use.

In addition to improved technologies and recommendations, the extensionists (via the ADFs) will also provide planting material of improved crop varieties and tree seedlings to farmers throughout the target area. For self-pollinated or vegetatively-propagated crops, superior varieties that are unavailable in the project area will be multiplied and distributed to farmers' groups and leader farmers through all existing extension networks. Due to the limited scale of the program, only small quantities will be multiplied, which will be insufficient for distribution to all beneficiaries. However, widespread geographic distribution through leader farmers and farm groups, coupled with effective extension messages on seed selection and storage at the farm level and sharing of resulting seed, will serve to extend improved seed to a large number of families.

Extension programming will also include an increased emphasis on marketing. Extensionists will provide farmers with training on market strategies and up-to-date information on crop prices and market opportunities, to assist them in making decisions on crop sales. Extensionists will receive intensive training in this area in order to work with local farmers to identify their marketing goals and the constraints that prohibit them from reaching these goals. Extensionists and farmers can then develop strategies to overcome these constraints and take advantage of available market opportunities. An important role of extensionists will be to link farmers with new markets and services to transport their products to those markets.

4.1.1.4. Technical Areas

Food for Work will not be used in this program component. With regard to complementarity, the agricultural component activities will complement the nutritional education and improvement activities of the child health and nutrition component. Extension field staff will work in the same communities served by FHK health promoters. Extensionists will train and encourage farmers to produce a greater variety of foods, including pulse crops and vegetables; while health facilitators will train women in the benefits of a more diversified diet.

Current services at the regional level for implementing the agricultural component are very good. The regional MOA is active and there is a high level of commitment on the part of its staff members. Agricultural inputs needed for the program are generally available. In addition, FHK is one of the most active agencies in Marsabit District, collaborating very closely with the government organizations (GOs) and NGOs in the district. Marsabit District has multi-sectoral forums through which all development activities and strategies are planned and addressed. These forums serve as coordination bodies which help to increase collaboration between the various agencies and decrease duplication of effort. The sectoral forums hold periodical meetings to review development plans and achievements. FHK is a key member of the following development committees:

- District Development Committee (DDC): This is a Committee that reviews and approves all the development projects in the district. It also formulates development plans in the District. The current FHK food security program coordinator represents FHK in this committee.

- District Agricultural Committee (DAC): All the district-level agricultural activities and strategies are formulated in this committee. In that FHK has a large food security program, it is a key member in this committee. Other members include Kenya Agricultural Research Institute, the Departments of Forest, Environment and Natural Resources, Water, and other key NGOs

such as GTZ and IOs such as the World Food Programme. This Committee is chaired by the District Agricultural Officer.

- District Health Committee: All district health activities are coordinated by the group. FHK has been very involved in the leadership of this committee over the past few years.

- Drought Contingency Group: This group has the responsibility of reviewing the drought situation in the District. The group also coordinates the relief efforts of all agencies in the district. Members of this group include the World Food Programme, Departments of Agriculture, Education, and Water, local government, and key NGOs. FHk was recently appointed as the lead agency in the current emergency relief operations being conducted in the region.

- Kenya Agricultural Research Institute: FHK collaborates very closely with KARI by using their research findings in productivity improvement and by bulking and distributing KARI-grown drought-tolerant seeds to beneficiary farmers.

FHK also enjoys a close relationship with several GOK Ministries in the region. FHK collaborates closely with GOK staff in the facilitation of community training workshops and the development of curriculum. Currently FHK has four GOK staff (two in health and two in agriculture) providing in-kind services to the programs.

Total paid staff in the agricultural productivity and production component will number sixteen**.** These staff will receive salaries for a 40-hour work week. They will receive on-going training over the LOA in agronomy, agricultural education and extension, marketing, storage techniques and other topics related to their disciplines and needs. In addition, approximately 18 demonstration farm workers and 50 leader farmers will work as volunteers in the project and will receive a small stipend for their participation.

4.1.1.5. Environmental Impact

A complete environmental review will be conducted during the first year of the program activities. This review will adhere to the guidelines currently being established by FFP and the CSs. The following, but not exclusive, issues will be considered in the review.

The Central Division represents the entire Marsabit Mountain area. This area includes 141 km2 of Marsabit National Forest, which is a vital watershed and ecosystem that makes Marsabit Mountain a green oasis surrounded by relatively arid land. This unique ecosystem continues to attract people who were traditionally pastoralists, but who have a growing interest in agriculture as an

alternative source of livelihood. The population has increased from 4,000 in 1971 to approximately 35,000 today (projected from 1989 census). The resulting increase in the demand for land and natural resources in Central Division has altered the Mountain's ecosystem to the dramatic extent that community elders have noted a decrease in the frequency of mist laden mornings and annual rainfall in their lifetimes. Periodic crop failures, land constraints, shifts away from traditional drought-tolerant crops and stagnant yields have resulted in increased vulnerability to food insecurity. The population pressure on arable land and the need for food has caused increased civil insecurity, banditry and an increasing reliance on imported foods from the Eastern and Central regions of Kenya which has shifted consumption preferences towards foods that may not be suitable for growing in drought prone areas. Late planting, declining soil fertility, poor quality seeds, poor spacing and extensive livestock damage are all indicative of current trends in the region which are leading to increased food insecurity.

In response to these recent trends and as a result of FHK's extensive experience in the region, The Food Security Program will look specifically at the relationship between the need for increased food production and the need to conserve natural resources. This balance will need to figure prominently in the environmental impact assessment scheduled for FY 1998.

Under the current activities, FHK is involved in a systematic assessment of the environment in and around Marsabit mountain. The drought preparedness and mitigation strategy currently in place provides the target population with data related to drought stress and recovery. This information is derived from local sources under the supervision of the Drought Preparedness Intervention & Recovery Program (DPIRP), a joint venture between Government of the Netherlands and the Government of Kenya.

The major variables currently monitored include:

- The Environment: In collaboration with FHK's Food Security Program, monthly assessments are conducted to monitor changes in various environmental indicators. As part of this process, monitors examine the available water sources, the condition of rangelands, the availability of trees, the availability of fuelwood, the migratory movements of the region's people, and the impact of development activities on the environment.

- Local Economy and Pastoralists Welfare: Monitors will also track animal births, animal mortality, slaughter rates, livestock sales, types of crops grown, condition of the crops, and harvest measurements. Welfare of the people will include household food consumption, cereal purchase and prices, and displacement of household members because of lack of food.

Thus, the current activities of FHK and the GOK to monitor the changes in the environment serve both to conserve existing natural resources and to help mitigate the effects of drought.

4.1.1.6. Key Risks and Assumptions

The key assumptions for the agriculture component include socio-poitico-economic stability in Kenya, a high level of local community organization and participation in the program, cooperation on the part of the MOA and other agriculture-related governmental agencies, market access and good prices for beneficiary-produced agricultural commodities, an effective training program, and the absence of widespread plant disease outbreaks. All of these assumptions are currently very realistic and the risks are manageable.

It is important to note that FHK is not assuming that there will be no drought over the LOA. Rather, the program aims to introduce practices, inputs and systems that, in the event of drought, will mitigate its effects and allow area households to successfully cope with that situation and maintain a certain degree of food security.

The current micro-environment is very positive. As mentioned earlier, the national and local government is prioritizing food security-type interventions via the establishment of the various district-level committees. It is assumed that this environment will continue to improve throughout the life of the project. Against this backdrop, the proposed agricultural program is feasible and the risks appear manageable.

4.1.1.7. Sustainability

FHK's work in the area of agricultural extension over the past four years has stressed human resource development as the best hope for and most appropriate measure of sustainability. That said, institutional sustainability has certainly not been ignored. For example, through FHK's cooperative relationship with the district-level extension agents, leaders of partner NGOs, and village development committee members, it has incorporated an important institutional capacity-building element into its program.

Nevertheless, by facilitating the adoption of improved agricultural practices and technologies among farmers at the individual, family, and community levels, the focus of FHK's agricultural program has indeed been on directly improving the sustainable skills and knowledge base of target area farmers. The large number of beneficiaries of FHK's agricultural extension efforts are independently perpetuating in their own families the improved practices that they have learned and self-tested. They also pass on these new techniques to their neighbors, who imitate the new farming practices they see, and thus create a "critical mass" of farmers who have adopted and will sustain these agricultural advances.

FHK will continue in the DAP agricultural productivity and production activities to plan for and measure sustainability by the number/percentage of direct and indirect beneficiaries who are assimilating and adopting the various improved technologies and practices being introduced.

In addition, FHK will continue to play a part in the strengthening of the technical and managerial capabilities of the government's own agricultural extension and research services by providing training opportunities to, coordinating activities, and sharing information with them.

Among the areas where FHK will be able to strengthen the technical/managerial capacity of local rural associations, village development committees and government agricultural institutions and thus contribute to the long-term sustainability of DAP activity results, are:

- *Demonstration of Improved Practices:* (1) The crop and agroforestry trials will be formulated in cooperation with and results shared with local farmers. On-farm technicians will facilitate this interchange using participatory techniques. (2) the district MOA will provide input in developing the ADF trials and all results will be shared with government institutions. (3) The ADFs will identify and demonstrate sustainable, environmentally sound practices to improve soil fertility, and low-cost, safe, locally-appropriate pest control techniques. All trials will employ technologies that the majority of farmers can easily afford and implement. (4) Superior crop varieties that are unavailable in the project area will be multiplied and distributed to individual farmers or associations.

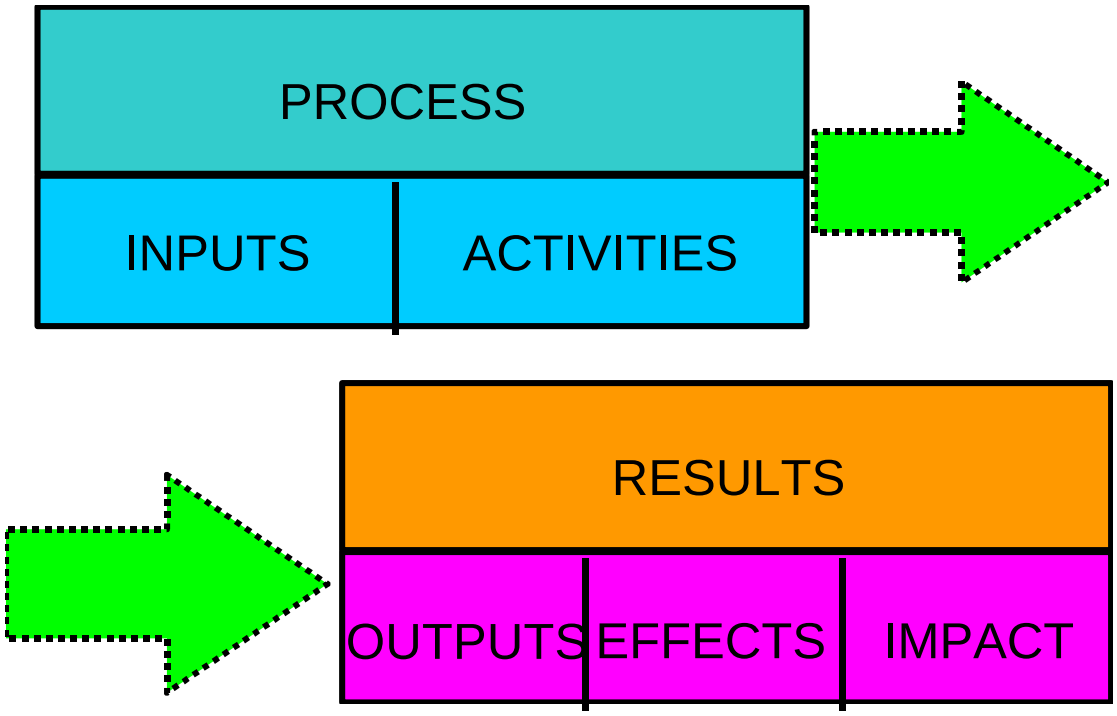
- *Agricultural Extension:* (1) Particular technologies and crops demonstrated will be identified by beneficiary farmers' groups according to their own needs, interests, and specific field conditions. (2) FHK extensionists will train leader farmers in improved agricultural practices and extension methodologies. These (unsalaried) farmers will constitute a locally-based agricultural training resource both during project execution and after FHK has withdrawn from the area. (3) Technologies to be transferred will be economically and environmentally sustainable. (4) MOA staff in each district will work in close collaboration with the FHK extension staff. MOA extensionists will benefit from in-house and external training sessions organized by FHK.

- *Marketing:* FHK will assist and train smallholder farmers and farmers' associations in crop marketing strategies—a skill whose benefits will far outlast the period of the project—and sustainable linkages will be developed among producers, distributors, and transporters.

4.1.2. Title II Performance Indicators

The results indicators chosen for the agriculture component are divided into four sets: final impact, intermediate impact, effect and output. In addition, a set of activity and input indicators exists for internal monitoring. They are not listed here for reasons of space. The figure below shows a generic logframe indicators continuum used in the agricultural and health components.

Figure: Logframe Indicators Continuum



The final impact indicators are twofold in nature. As mentioned above in section 3.2., the highest level of impact in the agricultural program needs to be measured by the change in the nutritional status of households in the target areas, especially the change in child malnutrition. That change will be measured by the CHN program at the mid-term and end of LOA. However, a secondary level of final impact in the agriculture program that ultimately influences nutritional status is the change in agricultural production and grain reserves of area households. That impact will be measured by the agriculture program at the mid-term and the end of LOA via survey-based evaluations.

The intermediate impact indicators directly influence the final indicators. They include changes in productivity of the primary staple crops (maize, sorghum and beans) and poultry, and the number of hectares under improved agricultural and NRM practices.

The effect indicators measure the change in practices of the target group. Included here are adoption rates of improved agricultural practices by both direct and in-direct beneficiaries.

The final section details the output indicators such as the number of beneficiaries trained, the number of improved crop storage facilities constructed, number of demonstration plots and gardens established, amount of improved seeds sold and number of cockerels sold.

The column for baseline data presented below refers to secondary data from the MOA for Marsabit District. Although this data is less precise than preferred ,it is being used as the baseline for the purposes of this DAP. However, FHK plans to conduct a baseline survey in early FY 1998 and will make the necessary adjustments to the annual benchmarks based on the new data. Those adjustments will be proposed in the first PAA (FY 1999). The term “target areas” used in the objectives section refers to the communities where FHK will operate. We anticipate working with approximately 60% percent of the population within these areas over the LOA.

The table below lists objectives, indicators, baseline data, mid-term and final evaluation benchmarks and means of verification for the LOA.

Table 11: Agriculture Component Modified Logframe FY 1998 - 2002

OBJECTIVES	INDICATORS	REGIONAL DATA [1]	FY 98	FY 99	FY 00	FY 01	FY 02	VERIFICATION
Life of Project Objectives	***Final Impact Indicators***							
1. Decreased child malnutrition in FHK target areas (measured by the CHN component)	1.1. Proportion of children 2-5 years old with a height-for-age Z-score less than -2.0.	40%			36%		32%	Mid-term and final evaluation conducted in 2002 using same methodology as baseline study
	1.2. Proportion of children 24-35 months of age with a height-for-age z-score less than -2.0.	45% *(est.)*			38%		32%	
	1.3. Average (mean) height-for-age Z-score of children 2-5 years of age.	-1.5 (est.)			-1.35		-1.2	
2. Increased agricultural production per beneficiary farm household in the target areas	2.1. The average total annual production of maize, sorghum and beans on beneficiary farm households in FHK target areas will increase by 50% over the life of the project	2.26 MT per house-hold			2.94 MT per house-hold		3.39 MT per house-hold	
	2.2. The average total annual production of poultry (kilograms per household) on beneficiary farm households in FHK target areas will increase by 60% over the life of the project	NA			+40%		+60%	
3. Increased average number of months of post-harvest grain provision in beneficiary households in the target areas	The average amount of post-harvest grain provision in beneficiary households in the target areas will increase to 12 months over the life of the project	NA			8 mos.		12 mos.	Mid-term and final evaluation conducted in 2001 using same methodology as baseline study

[1] Child malnutrition data are for the Eastern Province and are taken from the 1995 DHS (USAID, Macro International, Inc., IMPACT). Average annual yield data for the period 1993 - 1995 for Marsabit District (part of FHK target area) are taken from the District Agriculture Office (MDDP, 1996).

(CONT'D) OBJECTIVES	INDICATORS	REGI-ONAL DATA	FY 98	FY 99	FY 00	FY 01	FY 02	VERIFI-CATION
Purpose Objectives	***Intermediate Impact Indicators***							
1. Increased agricultural productivity of beneficiary farming households in FHK target areas	1.1. Average annual maize yield (MT/HA) increased by 400% over LOA	.37 MT per hect.	1.11 MT per hect.	1.48 MT per hect.	1.66 MT per hect.	1.75 MT per hect.	1.85 MT per hect.	Monitored and reported annually by FHK agriculture extension agents
	1.2. Average annual bean yield (MT/HA) increased by 600% over LOA	.05 MT per hect.	.20 MT per hect.	.25 MT per hect.	.30 MT per hect.	.33 MT per hect.	.35 MT per hect.	
	1.3. Average annual sorghum yield (MT/HA) increased by 100% over LOA	0.73 MT per hect.	0.88 MT per hect.	1.02 MT per hect.	1.17 MT per hect.	1.31 MT per hect.	1.46 MT per hect.	
	1.4. Average annual poultry productivity (live weight per improved bird) increased by 100% over LOA	1.0 Kg per bird (est.)	1.4 Kg per bird (est.)	1.6 Kg per bird (est.)	1.8 Kg per bird (est.)	2.0 Kg per bird (est.)	2.0 Kg per bird (est.)	
2. Increased land area in FHK target areas cultivated with improved practices	2.1. Percentage of cultivated hectares on beneficiary farms on which improved agricultural practices are used increased from 5 to 80% over the LOA	5% (est.)	25%	45%	60%	70%	80%	Monitored and reported annually by FHK agric. extension agents
	2.2. Percentage of cultivated hectares on beneficiary farms on which natural resource management practices are used increased from 5 to 80% over the LOA	5% (est.)	25%	45%	60%	70%	80%	
Behavioral Change Objectives	***Effect Indicators***							
1. Increased number of households who have improved their agricultural practices	1.1. Households that have adopted improved agricultural practices increased from 5 to 60% of the total households in target areas	5% (est.)			25%		60%	Mid-term and final evaluation conducted in 2001 w/ same methodol-ogy
	1.2. 1,250 non-beneficiaries will be replicating improved practices via farmer to farmer communication and training by end of LOA	NA	250	250	250	250	250	Monitored and reported annually by FHK agric. extension agents

(CONT'D) OBJECTIVES	INDICATORS	REGI-ONAL DATA	FY 98	FY 99	FY 00	FY 01	FY 02	VERIFI-CATION
Results Objectives	***Output Indicators***							
1. Increased number of households who have improved their knowledge of improved agricultural practices	1.1. 2,500 beneficiaries trained by extensionists and leader farmers in the use of improved practices such as improved seeds, fertilization, pest control, crop rotation, soil conservation, reforestation, and post-harvest storage.	0	400	500	550	550	500	Monitored monthly and reported annually by FHK agric. extension agents
	1.2. 600 farmers trained in improved practices at the demonstration farms	0	120	120	120	120	120	
	1.3. 300 women farmers trained in improved poultry management	0	60	60	60	60	60	
2. Increased agricultural infrastructure functioning in FHK target areas	2.1. 2 Centers for Demonstration and Training constructed	0	2					Monitored monthly and reported annually by FHK agric. staff.
	2.2. 400 family gardens established	0	75	100	100	75	50	
	2.3. 400 improved grain silos constructed	0	75	100	100	75	50	
3. Increased amount of improved agricultural inputs sold to beneficiary households	3.1. 600 improved cockerels sold to beneficiary households	0	60	60	60	60	60	
	3.2. 45 MT of drought-tolerant seeds will be sold to beneficiary farmers	0	9 MT	9 MT	9 MT	9 MT	9 MT	

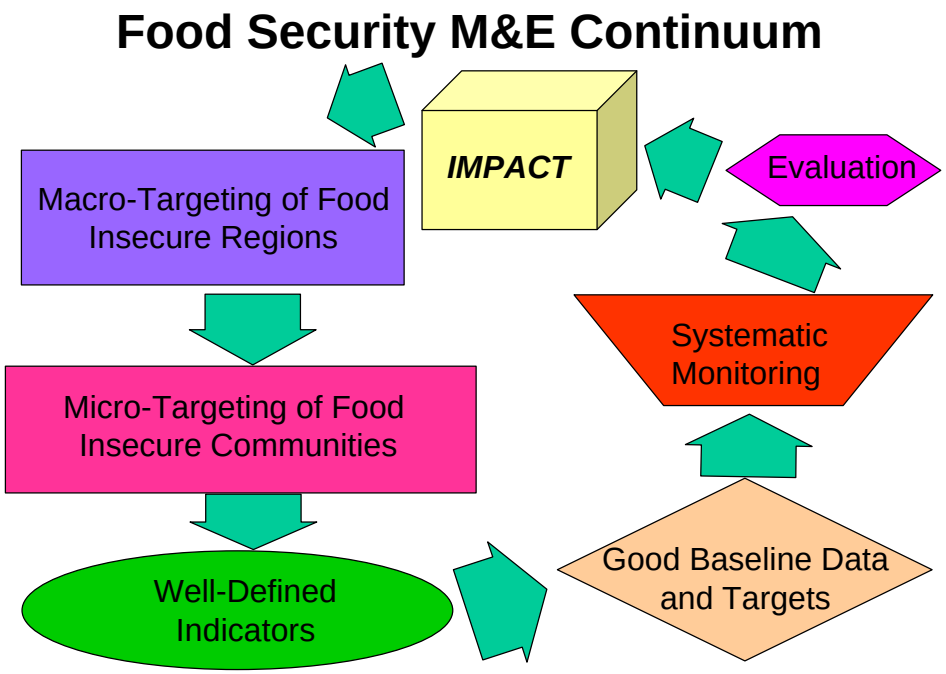
4.1.3. Monitoring and Evaluation Plan

4.1.3.1. General M&E Improvement Plan

In January 1997, FHI began implementation of an ISG-funded program to improve the monitoring and evaluation (M&E) systems of each of the four Title II program fields (Kenya, Ethiopia, Mozambique and Bolivia). The goal of the program is to achieve significant impact in food security via the establishment of a robust monitoring and evaluation (M&E) system in FHI in support of current and future Title II programs. The related purposes are to improve the following components of the food security M&E continuum: 1) macro-targeting, 2) micro-targeting, 3) indicator development and target setting, 4) baseline data collection and analysis, 5) monitoring, and 6) evaluation. The proposed focus of the related activities is to design and develop methodologies and systems for each of the six

components listed above and to train and provide technical assistance to FHI Title II-related field staff in the implementation of those methodologies and systems.

The continuum used by FHI is presented as a flow chart in the Figure below.



To that end, FHI has already conducted one training workshop in Kenya (in February) in which 19 staff received in-depth training in indicator development and operationalization and target setting. The indicators and logframe presented in this proposal are a direct result of that workshop. In addition, Kenya food security program staff will participate in a workshop on baseline data collection and analysis scheduled for June of this year. Subsequent workshops will focus on the other components shown in the M&E continuum. In addition to the workshops, FHI has been providing on-going technical assistance to Kenya and the other fields to improve their M&E systems.

4.1.3.2. Agriculture Component-Specific M&E Plan

Baseline Data Collection

Obtaining reliable baseline data is critical to program planning, monitoring, and evaluation. An FHK agriculture baseline survey will be conducted within the first quarter of FY 1998 and will be considered the primary data set in most instances. Secondary data sets from other reliable sources will be used to augment and

cross-reference with the FHK baseline data as appropriate. Some of the potential secondary data will be provided through the MOA's district offices in Marsabit and Moyale.

In conducting the survey, FHK will seek to maintain a reasonable balance between survey cost and reliable data. Sample sizes will vary according to community size and total target population. The sampling methodology and survey instrument will be designed using technical assistance provided by the FHI M&E improvement program. FHK will use Epi-Info for data analysis, monitoring, and reporting. Although the software is designed with health and nutrition programs in mind, it can also be used for agriculture data.

Program Monitoring

FHK will conduct agriculture program monitoring via the collection of information on a monthly and/or tri-monthly basis to improve management, make necessary adjustments, and assess impact trends.

FHK agriculture program monitoring is conducted at several levels. Community-level monitoring is carried out using community authorities (Village Development Committees), leader farmers and other beneficiaries. Each of these groups is trained to collect simple data in order to monitor certain agriculture program inputs, activities and outputs. FHK demonstration farm and extension staff will also collect monthly and/or tri-monthly data that is not being collected by the community members. In addition, they check to make sure that the community-generated data are reliable. A complete monitoring checklist will be developed for both FHK field-level staff and community members. This checklist will be filled out at each monitoring activity.

District monitoring will be conducted from the two district offices in Marsabit and Moyale, where supervisors for each of the programs collate the district data, check for reliability and present the assembled data to the national program manager. Program managers and supervisors at both the provincial and district levels review and track data to monitor impact and coverage within target areas including the degree to which inputs were correctly used, the degree to which planned activities were carried out, the quantity and quality of outputs that resulted from the inputs and activities, and the degree to which intermediate impacts were achieved (e.g., increased agricultural productivity). These managers then provide feedback to participating parties in order to make necessary changes and ensure that the program remains on track in meeting its objectives.

Periodic progress reports detailing activities, outputs, problems and opportunities encountered will be submitted to the USAID mission in Kenya and will be distributed to collaborating and partner organizations.

Program Evaluation

FHK proposes the use of two types of evaluation over the life of the development activities—internal and external.

1) Internal Evaluations:

FHK's internal evaluation system of the agriculture component will produce a thorough annual evaluation conducted at the district level and presented and discussed at the provincial and national levels. The nature of the evaluation will be both quantitative and qualitative. Quantitative information includes crop yields, the amount of productive infrastructure built, amount of seeds distributed, and the number of beneficiaries trained. Qualitative information will include each staff person's evaluation of various criteria including the degree of community participation and organization, the change in knowledge, attitudes, practices of beneficiaries, and program barriers and proposed solutions. In addition, a cross section of beneficiaries and collaborating partners will participate in the evaluation by offering their appraisal of program staff, degree of service offered, and the degree to which their felt needs were met by the program during the year. The conclusions of these evaluations will be used to make the necessary recommendations for improving program outputs and impact for the subsequent year.

2) External Evaluations:

In addition to the annual internal program evaluations, two external program evaluations are scheduled for the life of the development activities being proposed—a mid-term and a final. Ideally, the following will be determined via program evaluation: 1) effectiveness in achieving the intended goals; 2) control for factors outside of the influence of the program; and 3) the direction and magnitude of change that resulted from the program interventions.

The mid-term evaluation will be conducted in the field in FY 2000 and will focus on evaluation of effect and intermediate impact indicators. The methodology will be both quantitative (impact) and qualitative (effect) in nature. The evaluation team will include the FHK Agriculture Program Manager, a representative from USAID/K, District MOA representatives, and one outside consultants. The mid-term evaluation will be conducted over three weeks and carries an estimated cost of $20,000.

The final evaluation will be conducted in 2002. Both mid-term and final evaluations will use the same instrument that is used in the baseline study. Additional sources of data for both evaluations will include annual yield evaluations, and regularly reported project data related to agricultural production, and storage/marketing. Composition of the final evaluation team will be similar to

that of the mid-term team, with the addition of a few more participants. The duration of the final evaluation will be one month with a cost of $40,000.

4.1.4. Implementation Schedule

Tables below list both LOA and annual activities for each part of the program.

Table 6: Five-Year Time-Phased Agricultural Implementation Plan

ACTIVITY	FY 98	FY 99	FY 00	FY 01	FY 02
Hire personnel and construct ADFs in Moyale					
Re-start Marsabit activities and begin Moyale activities					
Conduct baseline study					
Conduct adaptive crop trials					
Conduct demonstration, extension and productive infrastructure activities					
Conduct annual internal evaluation					
Conduct mid-term external evaluation					
Conduct final external evaluation					

Table 7: Agricultural Demonstration Farm Annual Implementation Plan

ACTIVITIES	O	N	D	J	F	M	A	M	J	J	A	S
Plan trials agenda with farmers/extension/MOA												
Cereal crop trials												
Grain storage trials												
Agro-forestry trials												
Distribution of planting material of improved crop varieties and tree seedlings to farmers												
Data analysis, reporting, and distribution												
Training of Extension staff on recommended technologies												
Farmer & extension field days												

Table 8: Agricultural Extension Annual Implementation Plan

ACTIVITIES	O	N	D	J	F	M	A	M	J	J	A	S
Intensive training in agricultural production and agro-forestry technologies												
Training on extension methodologies												
Selection of leader farmers												
Group formation												
Planning with groups												
Installation of community gardens												
Land preparation and planting												
Field extension activities												
Harvest												
Physical yield estimates												
Improved storage technologies												
Improved poultry management training												
Dissemination of marketing information												
Evaluation of agricultural campaigns												

4.2. Child Health and Nutrition Component

The principal objective of this component is to decrease malnutrition and morbidity of children under ten years of age. The principal strategy to achieve that objective is to provide nutritional counseling and education, prevention of weight loss due to diarrhea, prevention of growth faltering and weight loss due to worms, and the prevention and treatment of vitamin A deficiency.

Approximately 9,270 children between the ages of zero and nine years will benefit over the LOA from the above interventions according to the following breakdown:

- promotion of exclusive breastfeeding and other sound nutritional practices with the mothers of 2,700 children 0-23m of age;

- promotion of ORT and proper dietary managment of diarrhea with these mothers;
- provision of vitamin A supplements to all children 6 - 72 months of age (6,700 children); and
- de-worming of children 2-9 years of age (7,200 children)

- Child health and nutrition program paid staff will total twelve and include at the national level a program coordinator, and at the regional level seven promoters, one school-health coordinator, and three school health assistants. There will also be approximately 54 community health workers that will not be permanent staff, but instead will receive an incentive for their participation in the program.

4.2.1. Specific Objectives and Related Activity Descriptions

4.2.1.1. Objectives

Objective #1: Decrease the percentage of stunted, wasted and underweight children in the target area.

Sub-objective #1.1: Increase the proportion of infants who are exclusively breastfed for the first 6 months of their life.

Sub-objective #1.2: Increase the proportion of infants and young children who are being fed an adequate number of times per day.

Sub-objective #1.3: Increase the proportion of children who are still breastfeeding at 24 months of age.

Sub-objective #1.4: Increase the proportion of children 1-9 years of age who are de-wormed on a regular basis.

Sub-objective #1.5: Increase the proportion of children 0-5 years of age who have received vitamin A supplements.

Sub-objective #1.6: Increase the proportion of mothers of children 0-23m who received vitamin A following their last delivery (of a live birth).

Objective #2: Decrease infant and child morbidity.

Sub-objective #2.1: Increase the proportion of infants continuously fed during diarrhea.

Sub-objective #2.2: Increase the proportion of mothers who use ORT to manage their child's diarrhea.

Sub-objective #2.3: Increase the proportion of children < 24m who are given extra foods and breastmilk following a diarrhea episode for at least two weeks to promote catch-up growth.

4.2.1.2. Rationale and Strategy

Rationale

The under-five mortality rate in Kenya is 90 per 1,000 live births. FHK's health team in Marsabit estimates that the most common causes of child deaths there are malnutrition, diarrhea, and pneumonia. As cited earlier, the Eastern Province has the second highest level of malnutrition in Kenya: 40% of children are stunted, 29% are underweight, and 7% are wasted. In order to have an impact on malnutrition, one must start with younger children: Stunting in Kenya peaks between 18 and 23 months of age and does not increase thereafter. Wasting and underweight peak even earlier: at about 13 months of age. (See figure at right.) A total of 38% of all deaths that occur before age five in Kenya are related to malnutrition. Because of its high prevalence, moderate rather than severe malnutrition contributes to the majority of these deaths.[2] The high child death rate leads, in turn, to an increased fertility rate, which puts more population pressure on already, limited food resources. It is essential to lower malnutrition and the child death rate to reach food security in Kenya.

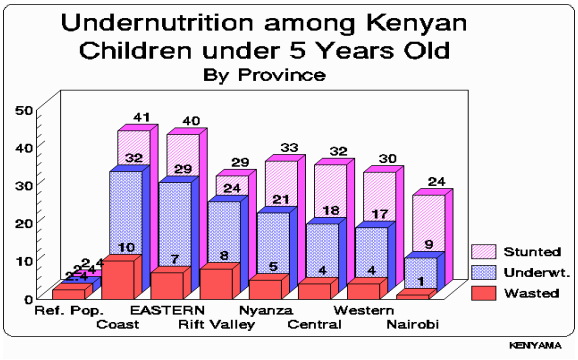
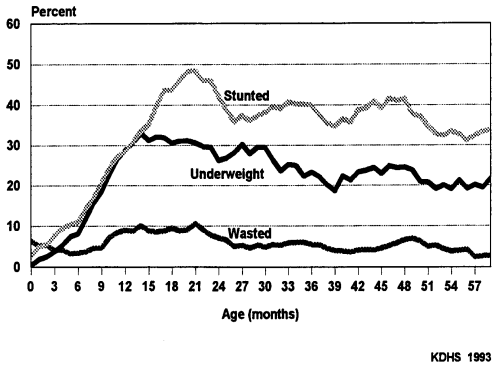


Figure 2.5 Stunting, Underweight, and Wasting among Children under Five Years, Kenya



The key infant feeding behavior that poses the greatest threat to child nutritional status and health is early introduction of complimentary food.[3] Contrary to recommended practice, a full 83% of Kenyan infants under four months of age

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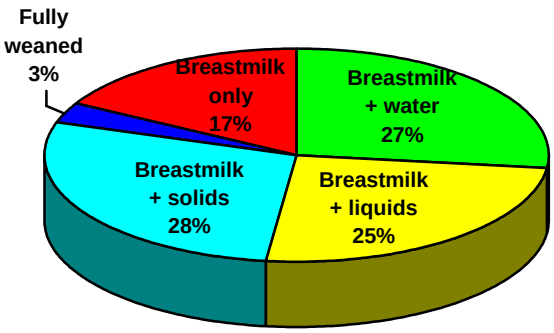
[2] USAID, Macro International, Inc., IMPACT (1996). *Nutrition and Health Status of Young Children and Their Mothers in Kenya.* Findings from the 1993 Kenya Demographic and Health Survey.

[3] *ibid*, p. xi.

Figure: Infant Feeding Practices in Kenya



are receiving foods other than breastmilk (see Figure at left). These children who are not exclusively breastfeeding are at a much higher risk of malnutrition, since: 1) the liquids and solid foods they are receiving are nutritionally inferior to breast milk; 2) the intake of these foods results in lower breast milk intake, which in turn lowers the mother's production of milk; and 3) the infant is exposed to more pathogens and therefore has more diarrheal infections. A recent study found that Kenyan children who had diarrhea in the previous two weeks were 27% more likely to be stunted compared to children who did not have diarrhea.[4] In a vicious circle, high prevalence of diarrhea often leads to stunting, and malnutrition often leads to increased prevalence of diarrhea.

Poor feeding practices during diarrhea and lack of oral rehydration therapy (ORT) are two problems that are related to malnutrition in the project area and Kenya, in general. Although both WHO and UNICEF recommend that children with diarrhea receive an increased amount of breast milk, 21% of breastfeeding mothers in Eastern Province actually give *less* breast milk to their child with diarrhea.[5] (This is the worst level of compliance in all of Kenya.) Also, fewer than 30% of mothers in Eastern province give ORT to their children when they have diarrhea. [*ibid*] Through this project, exclusive breastfeeding, proper feeding during diarrhea, and other sound nutritional practices will be promoted by FHK during growth monitoring sessions, home visits, and other health education opportunities.

While there is no data available on worm loads in the project area, studies conducted in the adjacent Coastal Province have found high levels of hookworm infestation. Worms contribute to malnutrition by decreasing appetite, lowering absorption of nutrients, lowering vitamin A uptake, and causing increased diarrheal episodes. In areas (such as Marsabit) where the prevalence of mild-moderate underweight in children is greater than 25%, the WHO recommends that high priority should be given to de-worming programs for the treatment of parasites because of the potentiating effects it can have on food utilization.[6] Children from 2-7 years of age will receive mebendazol twice a year through

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[4] *ibid*, p. 40.

[5] *ibid* p. 32

[6] Bundy, D.A.P. (1990). New initiatives in the control of helminths. Transactions of the Royal Society of Tropical Medicine and Hygiene. **84**: 467-468.

school-based and community-wide campaigns organized by FHK, school leaders, and leaders in the 24 project villages. Children who, for whatever reason, are not dosed during the community-wide campaigns ("defaulters") will be dosed during
home visits.

Vitamin A deficiency is also a contributor to poor food utilization in Marsabit. A study conducted from 1976-81[7] found that pockets of arid and semi-arid zones—including Marsabit—had significant levels of vitamin A deficiency. In fact, the prevalence of vitamin A deficiency (Bitot's spot in 1.13% of the children) is more than double the level considered to indicate a significant public health problem. (An unconfirmed rapid assessment done by an eye specialist in the Marsabit area reported that about 30% of school-aged children (7-14 years of age) had ocular signs of VAD in the lowland areas near Marsabit.) Children with vitamin A deficiency (VAD) are much more likely to have severe diarrhea, to become malnourished, and to die. Food for the Hungry plans to prevent Vitamin A deficiency by providing a high-dose vitamin A capsule twice a year to children 6m to 6 years and to lactating women during the first 40 days after birth (as recommended by UNICEF and the WHO). Aside from its ability to prevent malnutrition by reducing diarrheal incidence and severity, vitamin A supplementation alone has been shown to lower child mortality by as much as 25% in some studies.

Food for the Hungry Kenya is uniquely positioned to help confront these causes of malnutrition in the Marsabit area, since FHK is the principal NGO working there. Present health services in the area are weak, and do not offer the high-level of coverage that is planned in this project. GTZ, a German NGO, has helped to sponsor and train MOH staff in the area, but does not do direct health work. Christian Children's Fund does some PHC work in the Marsabit area, but only with school age children in sponsored schools. World Vision also works in the area, but not in the health sector. There is presently one dispensary (with a nurse) in Songa and one District hospital. Aside from those facilities, there are no other ones except some very small private practices. During droughts, women are much less likely to walk to any of these facilities. FHK will not rely on these facilities for providing health services, but will work through more accessible growth monitoring posts.

This project plan fits well with the Ministry of Health's plans. The Sectoral Policy Objectives of the Ministry of Health's District Development Plan (1997-2001) include several objectives which will be partially met through this project, including:

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[7] Seinkuller, P.G. (1983). *Nutritional Blindness in Africa*. Soc. Sci. and Med., **17**(22): 1715-1721.

- providing health services within easy reach of all Kenyans, with emphasis on preventive, promotive and rehabilitative care;

- increase coverage and accessibility of health services; and

- train[ing] the communities on safe water, nutrition, hygiene, and sanitation.

Strategy

Food for the Hungry will have a staff of twelve paid health workers, 54 volunteer community-level health workers, and all or part of four ancillary staff members. This includes:

- one Health and Nutrition Program Manager,
- seven supervisors (who will be called "*Community Health Promoters*"),
- one School-Health Coordinator/HIS Coordinator,
- three School Health Assistants,
- two Data Entry Technicians,
- one Driver/mechanic,
- one Program Assistant.

Also, a portion of the Field Accountant's, Program Coordinator's, and Country Director's salary will be included in the budget. Aside from these paid positions, there will be 54 Community Health Workers (CHWs) who will receive small, regular incentives. One of the community promoters, one MOH attache presently working with FHK, and the present Health Coordinator will probably be available to serve as supervisors. Four additional supervisors will be hired. FHK plans to request two nurses from the MOH to serve as Supervisors, since the MOH has provided nursing personnel (attaches) to FHK in the past. A small salary differential would be offered to these supervisors to bring their pay up the FHK pay scale, and to increase the likelihood that they will remain with FHK for many years. The Kenyan MOH and FHK have worked collaboratively in the Marsabit area for many years.

The Health Coordinator will be a person with significant experience in carrying out public health projects in rural settings. This coordinator will have primary oversight responsibility for the project and will work most intensely with the Supervisors. The Supervisors (Community Health Promoters), most of whom would be nurses or public health technicians, will be responsible for training, supervising, monitoring, and giving supplies to the CHWs. The Supervisors would also attend growth monitoring posts and help with the physical examination of children and nutritional counseling of their mothers. These skills

will be passed on to the CHWs as the project progresses. FHK plans to hire at least one Supervisor who has a high-level of previous experience in training of community-level volunteers or teaching. Language ability will be taken into account during the hiring process to assure that Supervisors are available who can speak both Boran and Rendile, the two main languages used in the area.

The Community Health Workers will be responsible for:

- organizing growth monitoring posts regular contact with mothers, and de-worming and vitamin A supplementation of young children (through GM posts and home visits),
- community health education, and
- organization and execution of community-wide campaigns for de-worming and vitamin A supplementation to children over two years of age (who will not come to the growth monitoring posts) and "defaulters" under two years of age.

There will be one CHW for every 50 children 0-23m of age (approximately). CHWs will be chosen by their communities with the guidance of FHK, and will receive regular incentives for their participation in the project. The supervisors will train the CHWs through approximately four, three-day training sessions per year.

One of FHK's Hunger Corps Volunteers[8] or another appropriately skilled health worker will serve as School Health Coordinator and Health Information System [HIS] Coordinator (about half time in each role). S/he will be responsible for the school health activities (see description below). This volunteer will be primarily responsible for maintenance of the computerized monitoring/ evaluation database, as well. During the last year of the project, these responsibilities will be turned over to a national staff person (who will be hired during year three as an assistant to the hunger corps volunteer). The HIS Coordinator will work with a team of two Data Entry Clerks. In her role as School Health Coordinator, she will work directly with three School Health Assistants who, in turn, will work with teachers to train them in how to do health education and organize the school-based de-worming campaigns. A Driver/mechanic will be hired to help with logistics and transport of staff and materials. An Office Hostess will be hired to serve as a secretary, messenger and librarian, and will assist with communications and other small jobs in the office. Part of the Field Accountant's salary will also be covered.

[8] FHK uses Hunger Corps Volunteers in many of their projects, including the one in Marsabit. HCVs are international staff who donate their time to work with FHK projects for 2 or more years. They are usually supported by individuals and churches in their home country.

The current health team of FHK (Marsabit) presently has experience in de-worming, school-based health education, immunizations, and nutrition education. The organization of training sessions for new and current FHK health workers to supplement these skills will be the responsibility of the Health Coordinator. In order to plan these trainings, the Health Coordinator will make contact with training resource agencies such as UNICEF, the WHO, the OMNI project (for vitamin A supplementation issues), INMED (for information on de-worming), and the Kenyan MOH. (Some of the training materials that will be used are mentioned in the intervention section as well.)

Following the baseline KPC survey (see next section on monitoring and evaluation), the staff will use a qualitative research methodology[9]--to study key factors that may prevent mothers from doing each of the healthy practices that will be promoted during this project. Key educational messages and educational materials (e.g., flipcharts) will be developed based on the results of this qualitative research. Selection of CHWs will occur concurrently with these initial baseline survey activities. Once this initial baseline quantitative and qualitative evaluation has taken place, the Health Coordinator will begin training the staff, and the staff will begin training the CHWs. Other activities that will occur during the first two quarters of the project include selection of training materials, development of the tools necessary for the monitoring and evaluation system, development of supervision tools (e.g., supervisory checklists), and selection of the locations for the growth monitoring posts. (The posts will be geographically situated so as to make them accessible to mothers.) Materials from the aforementioned training resource agencies will be considered for use in these trainings.

Growth monitoring will be a vehicle for the four interventions described in the following section. Growth monitoring will take place in these posts every two to three months (four to six times per year) with children 0-23m of age. Growth monitoring will not be the principle intervention expected to lower malnutrition rates, but rather a *vehicle* for having regular contact with mothers during which time the other interventions can take place. These interventions—which are described below in detail—include:

- nutritional counseling and education,
- prevention of weight loss due to diarrhea,
- prevention of growth faltering and weight loss due to worms, and
- prevention and treatment of vitamin A deficiency.

If there is no relationship between a CHW and a mother, little can be done in the way of behavior change. Regular access to mothers and young children, then, is key to being able to change nutritional practices, to preventing malnutrition, and to making changes in the way a child is cared for when growth begins to falter. The FHK health team working in Marsabit has found that mothers will usually

[9] developed by Tom Davis, MPH (FHK's MCH consultant)

stop coming to growth monitoring sessions once the child is no longer scheduled to receive anything during the session (e.g., vaccines). This fall in attendance usually occurs when the child is around nine months to one year of age.

In order to continue this necessary level of contact between health workers and mothers throughout the second year of life—an age when development is still very critical—FHK plans to offer interventions that the mothers value: vitamins (vitamin A) and medicine (de-worming drugs). (In addition, vaccines will continue to be provided by MOH staff at many of these posts.) These interventions have proven to be very useful in their own right for combating childhood malnutrition in Kenya. Using them to increase health workers' contact with mothers of young children, however, will leverage further benefits from them.

As part of the health education strategy, the promotion of the healthy practices mentioned in the sections below will be done during the Supervisors' and CHW's regular contact with mothers during growth monitoring posts, educational meetings, home visits, and other opportunities for education. Preparation of ORS and dietary management of diarrhea, for example, will be promoted through public demonstrations, radio announcements, and during antenatal care in the health centers.

Often, health programs fail because they rely on only the basic health education messages (e.g., "use ORS when your child has diarrhea") without looking into why mothers in the project area do not take action to prevent their child from becoming ill. In this project, health education messages will be relevant to people's lives since they will be based on the results of the KPC survey and rapid qualitative studies ("factorial analysis") conducted to determine which things block mothers from taking preventative action. These "blocks" may include:

- low perceived susceptibility to the illness or problem (e.g., when mothers say, "my child can't get malnourished—that only happens to mothers who are negligent");
- low perceived severity of the illness or problem (e.g., when mothers say, "worms cannot hurt my child");
- low perceived efficacy of the preventive action (e.g., when mothers say "chlorination of water will not purify the water anyway"),
- perception of social norms (e.g., "I want to use ORS, but my mother-in-law says it will harm my child and has told me not to use it"),
- lack of cues for action (e.g., forgetting to bring the child to the GM post or forgetting how to make ORS),
- perceived difficulty of the preventive action (e.g., "it's too expensive to boil drinking water every day"), and
- other positive and negative attributes of the action (e.g., "iron tablets make me nauseous", "my child likes the way the de-

worming medicine tastes", or "women with money don't breast feed").

This methodology has been used successfully in other countries to craft locally relevant health education messages.

4.2.1.3. Proposed Activity Intervention

The synergistic relationship between the four interventions presented below, and how they lead to improved food utilization, is presented graphically in the figure below.

Intervention #1: Nutritional Counseling and Education

Nutritional counseling and education will be done quarterly at the growth monitoring posts for children 0-2 years of age, during home visits (to children 0-23m who do not attend the growth monitoring sessions), and during other opportunities for community-level health education. As stated previously, the educational messages will be based on the results of the KPC survey and subsequent qualitative studies. Most likely, though, the educational messages will emphasize (but not be limited to):

- exclusive breastfeeding for the first six months of life,
- proper timing, selection, and preparation of complementary foods, and
- increasing the number of meals / snacks per day for children over six months of age.

Messages will also include initiation of breastfeeding within one hour of birth and persistent breastfeeding (to two years), as well, but we do not expect to find these to be significant problems in the Marsabit area.

Health workers will receive approximately 24 hours of instruction (through a three-day workshop) in nutritional counseling of mothers using resources such as Learning to Listen to Mothers. [10] Follow-up and quality assessment in the field by the Supervisors will assure that the CHWs have the level of knowledge and skill necessary to help mothers change the behaviors that are related to their child's nutritional status. Flipcharts, stories, and other appropriate methods will be used to regularly educate mothers about what she should be doing during the upcoming months. CHWs will be trained to be sensitive to the barriers that mothers face in taking preventive actions and will explore and help mothers to work through these barriers. Mothers will be asked to commit to specific actions during each growth monitoring session, since this verbal commitment often leads to a higher level of compliance with the CHWs advice.

Intervention #2: Preventing Weight Loss Due to Diarrhea

Improved prevention of weight loss during diarrhea for children 0-5 years of age will be accomplished principally through:

- promotion of proper feeding during diarrheal episodes (increased or the same amount of breastmilk, fluids, and solid and semi-solid food), and proper feeding in the post-diarrhea period (increased feeding for catch-up growth);

[10] Vella, J. and Uccellani, V. (1993) Learning to listen to mothers. Produced in collaboration with the Academy for Educational Development with support from USAID, contract no. DAN-5113-Z-00-7031-00.

- promotion of oral rehydration therapy using oral rehydration solution (from packets), and home-available fluids;
- education on the danger signs of diarrheal dehydration; and
- promotion of hand washing, latrine use and other sanitary practices.

Promotion will occur during the growth monitoring posts and home visits to mothers of children under two years of age, and other opportunities for community health education.[11] The manual, "Improving Young Child Feeding During Diarrhea" [12] will be used as a resource for this intervention. The CHWs will receive approximately 24 hours of training for this intervention (through a three-day workshop). Follow-up and quality assessment in the field by the Supervisors will assure that the CHWs have the level of knowledge and skill necessary to properly promote ORT and carry out the other activities necessary to make this intervention successful. The other three interventions should also lead to decreased weight loss from diarrhea (e.g., vitamin A supplementation, de-worming of children, promotion of exclusive breastfeeding).

Many young children in the project area are often left in charge of their younger siblings, acting as their care-providers. For this reason, more than 2,000 children in the seven primary schools that have a relationship with FHK will be taught simple dietary management of diarrhea (e.g., that children with diarrhea need to receive more liquids or breastmilk) and will be taught to prepare ORS through classroom demonstrations. The Ministry of Education in both Marsabit and Moyale are very heavily supporting FHK's school-based health promotion efforts. Presently, FHK is setting up a program whereby the School Health Provider's (teachers trained by FHK) are required to use School Health Resource Kits on a weekly basis (about one hour of health education per week). The purpose of this school-based education will not be to have an impact on the school-aged children's levels of malnutrition, but rather to train them to be better care-providers to their younger siblings. The School Health Coordinator and the three School Health Assistants will be responsible for these activities.

As mentioned earlier, preparation of ORS and dietary management of diarrhea will be promoted through public demonstrations, radio announcements, and during antenatal care in the health centers, as well. Presently, ORS packets are usually available in area health clinics and the health kits of CHWs trained by GTZ and the MOH. Packets are sometimes available in the area hospitals. Each of the CHWs trained in this project will receive a stock of ORS packets,

[11] While mothers of children under two will be the target for education in this intervention, we expect children 0-5 years of age to reap the most benefits from this education over the life of the project.

[12] PRITECH, MSH. (1988). Improving Young Child Feeding During Diarrhea: A guide for Investigators and Program Managers.

thus expanding the network of ORS packet distribution locations in the Marsabit area.

Intervention #3: Prevention of Growth Faltering and Weight Loss Due to Worms

Prevention of growth faltering and weight loss due to worms will be accomplished through regular de-worming of children twice a year. Children 2- 9 years of age will receive a wide-spectrum anthelminthic drug (mebendazol, single 500mg dose) twice yearly throughout the LOA. Younger children (two to five years of age) and children 5-9 years old who are not attending school will be dosed during community-wide de-worming campaigns. Children who, for whatever reason, are not dosed during the campaigns, will be dosed during home visits. Approximately 1,070 children 5-9 years of age who attend one of the seven sponsored schools will be dosed with mebendazole. The school-based de-worming campaigns will be organized by teachers in coordination with the FHK School Health Coordinator and three School Health Assistants. Near the end of the project (once the mothers have fully recognized the value of de-worming) the project staff will explore cost-recovery mechanisms—such as charging for the de-worming drugs—in order to make this intervention more sustainable. (Presently, mebendazole is available in Kenya for less than four cents per 500mg dose.) Some parents have already seen the value of regular de-worming and are purchasing de-worming drugs for their children. CHWs and trained teachers will educate parents and children on the prevention of worms. The CHWs will receive approximately 24 hours of training (through a three-day workshop) on this intervention. Follow-up in the field by the Supervisors will assure that the CHWs have the level of knowledge and skill necessary to carry out this intervention in their communities.

FHK realizes that there has been significant discussion and disagreement in FFP concerning the impact of nutritional interventions for children over five years of age. While this project will primarily focus on children under two years of age, recent studies in Kenya [13] have shown how de-worming of school-aged children can lead to significant weight gain, height increment, arm circumference, appetite improvement, and physical fitness. Worms significantly contribute to malnutrition, poor school performance, and other ills. Other studies have shown how de-worming school-aged children can lead to a significant reduction in malnutrition and anemia, as well as improvements in memory and learning in school-aged children.[14] The inclusion of de-worming in food security programs is

[13] Stephensen, L., Lathan, M et al. (1993). Physical Fitness, Growth and Appetite of Kenyan School Boys with Hookworm, *Trichuris trichiura* and *Ascaris lumbricoides* Infections Are Improved Four Months After a Single Dose of Albendazole. American Institute of Nutrition, Publication 0033-3166/93.

[14] Halloran, M., Bundy, D., et al. (1989). Infectious disease and the UNESCO basic initiative. Parasitology Today, **5**: 358-362.

bolstered by the recommendation of the UN Administrative Committee on Coordination that "treatment of intestinal parasites may often be a desirable accompaniment to food supplementation programmes." Given this, FHK would like to include this intervention in the child health program. The total effort to this intervention with school-aged children would be relatively minimal (two de-worming campaigns per year per school), the intervention would be rigorously evaluated, and the total cost for de-worming drugs would be only $2,000/ per year. This represents a cost of about 40 cents per school-aged beneficiary per year. This intervention would be initiated by FHK. Over the life of the project, FHK would work to have this activity taken over by Ministry of Education (MOE). Part of this hand-off would include helping the MOE to find funding sources for the de-worming drugs, the one part of the activity that may surpass their present resources.

At FFP's request, Food for the Hungry would also consider doing a pilot study involving the de-worming of adults. Anemia is one consequence of hookworm infection and, in adults, is associated with a diminished capacity to carry out physical work.[15] The WHO Expert Committee considered evidence of the impact of worm associated anemia. For example, the productivity of Kenyan workers with moderate anemia was 24% below non-anemic workers (34% less for severely anemic workers).[16] By treating hookworm, Food for the Hungry would be able to eliminate a primary cause of iron-deficiency anemia, and thereby boost farm worker productivity. The WHO Committee concluded that the reduction of productivity associated with hookworm indicated that de-worming was cost-effective. (Please note that this intervention—de-worming of adults—will *not* be included in this project unless FFP requests that FHK include it.)

Intervention #4: Prevention and Treatment of Vitamin A Deficiency Through Vitamin A Supplementation

All children from 6m to 5 years of age will receive vitamin A supplements three times per year following national and international protocols (e.g., Kenya MOH, UNICEF, WHO). Supplementation will be done during the growth monitoring posts, home visits and community-wide campaigns. Mothers will receive vitamin A within two months after delivery, as well, as part of a separately funded project. Children who are identified with xerophthalmia, severe infectious disease (e.g., measles, dysentery, persistent diarrhea) and severe protein-energy malnutrition will receive immediate supplementation with vitamin A capsules. Mothers also will be counseled to include high vitamin A foods in their child's diet along with oils and fats to improve the absorption of Vitamin A.

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[15] Latham, Michael C. (1983). Dietary and Health Interventions to Improve Worker Productivity in Kenya. Tropical Doctor, **13**: 34-38.

[16] Lathan, M. and Stephenson, L. (1981). Kenya: Health, Nutrition, and Worker Productivity Studies. World Bank, Washington, D.C.

Vitamin A dosing will be documented on the child's growth chart, and in registries kept by the CHW. During supervision visits, the project staff will periodically assess whether CHWs are giving vitamin A supplements on an appropriate schedule. The CHWs will receive approximately 24 hours of training on this intervention (through a three-day workshop). Follow-up in the field by the Supervisors will assure that the CHWs have the level of knowledge and skill necessary to do render high-quality vitamin A services to their community.

4.2.1.4. Technical Areas

The health and nutrition technical questions raised in Appendix I of the DAP guidelines have all been addressed in the previous two sections on rationale and interventions.

4.2.1.5. Environmental Impact

No review is planned in addition to the one described in the agriculture section of the DAP.

4.2.1.6. Key Assumptions and Risks

The key assumptions and related risks in the health program include politico-socio-economic stability in Kenya, a high level of local community organization and participation in the program, cooperation on the part of the Provincial and District MOH and other NGOs involved in primary health in Marsabit and Moyale Divisions, and the absence of widespread epidemics. All of these assumptions are currently very realistic and the risks are reasonably low.

The current micro-environment is very positive. As mentioned earlier, the government continues to make progress in improving primary health care and nutrition in Kenya. It is assumed that this environment will continue to improve throughout the life of the project. Against this backdrop, the proposed health program is both feasible and has relatively few risks.

4.2.1.7. Sustainability

As the project moves forward, the MOH will be encouraged to be more and more involved in the organization and carrying out of the growth monitoring posts in order to increase sustainability. Vitamin A and de-worming drugs are presently available at low cost in the Marsabit area through the Community Pharmacy sponsored by UNICEF's Bamako Initiative. FHI will progressively encourage parents to purchase vitamin A and the de-worming drugs through this pharmacy.

It should be noted that the Kenyan MOH has voiced its interest in applying the Integrated Management of Childhood Illness (IMCI) strategy throughout Kenya. Kenya is among the countries that will be receiving intensive support from the

WHO for the introduction of the IMCI strategy. However, IMCI will not be applied in Kenya, as a whole, for at least 4-5 years. As part of the IMCI strategy, all Kenyan children two to five years of age who present at a government health facility will be dosed with a de-worming drug (probably mebendazole) every six months. Children 6m to five years will receive Vitamin A, as well, as part of IMCI. Thus vitamin A supplementation and de-worming of preschool children in Kenya will become a routine MOH activity once IMCI is introduced. Growth monitoring and improved nutritional counseling at all government health facilities is also part of the IMCI initiative. In the initial phase of the program FHK's role will be to provide Vitamin A, de-worming medications, and growth monitoring /promotion to children in the project villages, since the Kenyan MOH is not yet able to apply the IMCI nationwide. A strategy for MOH takeover of these interventions will be developed within the first year of the DAP activities.

Parents of school-aged children (or other donors) will need to assume the costs for the vitamin A supplements (only about 6 cents per child per year) and the de-worming drugs (less than four cents per child per year for mebendazole). It is not unreasonable to expect parents to pay for these very inexpensive supplements. FHK will work with MOE officials to find mechanisms whereby the schools will assume responsibility for the labor involved in the regular dosing of children with vitamin A supplements and de-worming drugs. This may involve subsidizing the cost, as well. Presently, both vitamin A and de-worming drugs can be purchased in the area at the Bamako Initiative Community Pharmacy.

4.2.2. Title II Performance Indicators

While we have used the indicators suggested in the DAP guidelines (Appendix B: Title II Draft Generic Indicators), we have also included several additional indicators that we feel are more relevant to the situation in Kenya. FHK feels that the likelihood of demonstrating statistically significant change is higher when using these additional indicators, and the inclusion of these should be helpful to FFP in its present work of establishing useful field indicators for showing impact.

The column for baseline data presented below refers in most cases to estimates for Marsabit and Moyale Districts. Estimates are only being used for the purposes of this DAP. As with the agriculture program, FHK plans to conduct a baseline survey in early FY 1998 and will make the necessary adjustments to the annual benchmarks based on the new data. Those adjustments will be proposed in the first PAA (FY 1999).

The table below lists objectives, indicators, baseline data, mid-term and final evaluation benchmarks and means of verification for the LOA.

Child Health and Nutrition Program Logframe Objectives and Indicators

Global Health and Nutrition Program Objectives and Indicators

OBJECTIVES	*INDICATORS*	*BASELINE (1997)*	*MID-TERM (2000)*	*FINAL (2002)*	*VERIFICATION*
Life of Project Objective	***Final Impact Indicators***				
1. Decrease chronic malnutrition (stunting) by at least 20% in FHI target areas.[17]	1a. Proportion of children 2-5 years old with a height-for-age Z-score less than -2.0.	40%	36%	32%	"Mini-study" on height- for-age of a sample of children done semi-annually to determine the trend.
	1b. Proportion of children 24-35m of age with a height-for-age z-score less than -2.0.	45% *(est.)*	38%	32%	
	1c. Average (mean) height-for-age Z-score of children 2-5 years of age.	-1.5 (est.)	- 1.35	-1.2	
2. Decrease infant and child acute malnutrition (underweight) by at least 20%.	2a. Proportion of children 12-36 months of age who are underweight (< -2.0 weight-for-age Z-score) .	29%[18]	26%	23%	Same as above, but for weight- for-age.[19]
3. Decrease global malnutrition (wasting) by at least 20% in FHI target areas[20]	3a. Proportion of children 24-60 months old with a weigh-for-height Z-score less than -1.0.[21]	31% (est.)	28%	25%	Same as above, for weight-for-height.
	3b. Proportion of children 24-60 months of age with a weight-for-height Z-score < -2.0.	6.6%	5.9%	5.3%	
	3c. Proportion of children 24-36m of age with a weight-for-height Z-score < -1.0.	35% (est.)	32%	28%	

[17] A 20% drop will be expected for indicator 1a and 1c. A 30% drop will be expected for indicator 1b. We expect to see the most statistically significant change in malnutrition in children aged 24-35m since stunting peaks at 18m, underweight peaks at 12 months, and wasting peaks at about 18m of age in Kenya. The proportion of children below 12 months of age who are malnourished varies from 0% to 30% depending on the indicator used and the month (lower near the child's birth and rising precipitously from then onward throughout the first year of life). Given this dramatic rise in the first year of life, the best indicator of change would not include infants, but would measure the levels of malnutrition during the period just following the traditional peak of malnutrition levels. In Kenya, that would be the period just after 21m of age. In order to make the sampling easier and to have enough children in a sample to show significant change, we have chosen the period 24-35m of age as an alternate indicator. The children over 36m of age may not experience the greatest drop in malnutrition since they will go through their infancy during the first two years of the project. We expect to see a more rapid decrease in malnutrition in the 24-35m age group of children. The rates will be reported with a breakdown by gender, as well.

[18] Baseline data are generally taken from: USAID, Macro International, Inc., IMPACT (1996). *Nutrition and Health Status of Young Children and Their Mothers in Kenya.* Findings from the 1993 Kenya Demographic and Health Survey. (Estimates are based on staff knowledge and/or deductions based on the aforementioned report.)

[19] To reliably measure this objective, frequent measurements should be taken since significant seasonal fluctuation is often seen with malnutrition, especially underweight (and diarrhea, as well).

[20] The proportion of children who are underweight and stunted may be difficult to determine *at baseline* since many mothers do not have birth certificates and often cannot remember birthdates. This indicator will not require a birthdate and may provide the most accurate data.

[21] While this is not the cut-off point for stunting, it is the best cut-off level to use to measure a change in the level of stunting in this population. This is because it will be easier to show a statistically significant difference when a proportion of 31% falls 20% (to 25%) than when 6.6% falls by 20% (to 5.3%). This is the indicator recommended in the WHO's guidelines as cited in Measuring Change in Nutritional Status (1983), p. 22. Indicator 3b will be reported, as well, but we do not expect to see a statistically significant change using this indicator (for the reason cited above).

Intervention #1: Nutritional Counseling and Education

OBJECTIVES	*INDICATORS*	*BASELINE*	*MID-TERM (2000)*	*FINAL (2002)*	*VERIFICATION*
Behavioral Change Objectives 1. Increase by 100% the proportion of infants who are exclusively breastfed for the first 6 months of their life.	***Effect Indicators*** 1a. Proportion of infants less than six months of age in FHI communities who are being given only breastmilk.	10% (est.)	15%	20%	KPC Survey at baseline, midterm and final.
	1b. Proportion of infants less than four months of age in FHI communities who are being given only breastmilk. (alternate indicator)	15%	23%	30%	
2. Increase the proportion of infants and young children who are being fed an adequate number of times per day by 30%.[22]	2. Proportion of children 6-23m in the 24 project villages who are fed five or more meals or snacks per day (including breast feeds).	10% (est.)	20%	30%	KPC Survey at baseline, midterm and final.
3. Increase the proportion of children who are still breastfeeding at 24 months of age by 30%.	3. Proportion of children between 20 and 23 months who are still breastfeeding.	50% (est.)	58%	65%	KPC Survey at baseline, midterm and final.
Results Objectives	***Output Indicators***				
4. Increase the proportion of eligible children 0-2 years who have their growth monitored at least four times per year.	4. Proportion of children 0-2 years in the 24 project villages who are weighed at least four times per year.	35% (est.)	48%	60%	Inspection of growth charts during KPC Survey at baseline, midterm and final.
5. Train community health workers in proper growth monitoring and promotion techniques.	5. Proportion of the CHWs who are trained in proper growth monitoring and promotion techniques within the first two years of the project.	45%	90%	90%	Review of internal project documents.
6. Achieve a low turnover of CHWs.	6. Average length of service of all CHWs who were hired during the first two years of the project.	na	na	2.5 years	Review of internal project documents.

[22] The staff of FHI/Kenya feel that *immediate breastfeeding after birth* and *complimentary feeding* (infants 6-10m who are fed complementary foods) is practically universal in the Marsabit area, so the generic indicators for these two nutritional problems will not be included. If the results of the KPC survey show that either or both of these situations is problematic in the area, indicators will be added.

Intervention #2: Prevention of Weight Loss Due to Diarrhea

OBJECTIVES	*INDICATORS*	*BASELINE (1997)*	*MID-TERM (2000)*	*FINAL (2002)*	*VERIFICATION*
Life of Project Objective	***Impact Indicator***				
(See global objectives for malnutrition.)	(See global indicators for malnutrition.)				
Purpose Objective	***Intermediate Impact Indicator***				
1. Decrease infant and child morbidity due to diarrhea by 30%	1. Proportion of children 0-23m old who have had diarrhea in the past two weeks.	25% (est.)	21% (a 16% decrease)	17.5% (a 30% decrease)	Mini-study on child morbidity done twice a year to determine the trend
Behavioral Change Objectives	***Effect Indicators***				
2. Increase the proportion of infants continuously fed during diarrhea by 20%.	2a. Proportion of children 0-24m with diarrhea in the past two weeks who were given the same amount / more breastmilk.	79%	87%	95% (a 20% increase)	KPC Survey (at baseline, midterm, and final)
	2b. Proportion of children 0-24m with diarrhea in the past two weeks who were given the same amount or more solid or semi-solid food	93% (est.)	95%	97%	KPC Survey
3. Increase the proportion of mothers who use ORT to manage their child's diarrhea by 50%	3. Proportion of children 0-24m with diarrhea in the past two weeks who were treated with ORT	40% *(est.)*	50%	60%	KPC Survey
4. Increase the proportion of children < 24m (three-fold) who are given extra foods and breastmilk following a diarrheal episode for at least two weeks to promote catch-up growth.	*4 Proportion of mothers who say that they give their child more food than usual during the post-diarrheal period.*	*5% (est.)*	12%	20%	KPC Survey
Results Objectives	***Output Indicators***				
1. Increase the proportion of mothers who know how to prepare ORT from packets by 50%.	1.1 Increase the proportion of mothers of children 0-23m in the 24 project villages who can correctly state how to prepare ORT from packets.	40% *(est.)*	50%	60%	KPC Survey

Intervention #3: Prevention of Growth Faltering and Weight Loss Due to Worms

OBJECTIVES	**INDICATORS**	**BASELINE 1997**	**MIDTERM 2000**	**FINAL 2002**	**VERIFICATION**
Life of Project Objective	***Impact Indicator***				
(See global objectives for malnutrition.)	(See global indicators for malnutrition.)				
Results Objective	***Output Indicators***				

1. To increase the proportion of children 1-9 years of age who are de-wormed on a regular basis.	1a. Proportion of children 24 to 59m of age who have received at least one dose of a broad spectrum de-worming drug (mebendazol) within the past year.	5% (est.)	50%	85%	KPC Survey (baseline, midterm, and final) and internal monitoring
	1b. Proportion of children 5-9 years of age who have received at least one dose of a broad spectrum de-worming drug within the past year.	< 5% (est.)	50%	75%	Internal monitoring documents

Intervention #4: Prevention and Treatment of Vitamin A Deficiency

OBJECTIVES	INDICATORS	BASELINE 1997	MIDTERM 2000	FINAL 2002	VERIFICATION
Life of Project Objective	***Impact Indicator***				
(See global objectives for malnutrition.)	(See global indicators for malnutrition.)				
Results Objective	***Output Indicators***				
1. To increase the proportion of children 0-5 years of age who have received vitamin A supple-ments.	1. Proportion of children 12 to 23m of age who have received at least one dose of vitamin A	10% (est.)	45%	75%	KPC Survey (baseline, midterm, and final)
2. To increase the proportion of mothers of children 0-23m who received vitamin A following their last delivery (of a live birth).	2. Proportion of mothers who delivered (live birth) during the past two years who claim to have received a vitamin A supplement within one month of the delivery.	< 5% (est.)	25%	50%	KPC Survey (baseline, midterm, and final)

4.2.3. Monitoring and Evaluation Plan

The discussion of the general M&E plan via FHI's M&E improvement program in the agriculture section also applies to the health and nutrition component. The health staff will participate in the same design and training process over the next 16 months. In addition to that training, the health and nutrition component will have the following program-specific plan for M&E.

4.2.3.1. Baseline Data Collection and Analysis

At the beginning of the project, mothers' knowledge and practices related to the selected health interventions will be assessed using a thirty-cluster, knowledge, practice, and coverage (KPC) survey. This thirty-cluster, KPC survey will be used at the beginning, midterm and end of the project to measure progress toward the objectives laid out in the indicator tables. Many of the questions used in the survey questionnaire will be similar to those used in USAID Child Survival projects, since the reliability of these questions have been tested in many countries. The 30 cluster sampling methodology will follow that used by USAID in expanded program of immunizations (EPI) surveys. The sample size will be enlarged, however, from 210 to about 300 to allow for analysis of sub-populations (e.g., children with diarrhea in the past two weeks). The questionnaire will be translated into the Boran and Rendile languages spoken in the project area, and then pretested. The staff will receive training in how to conduct the KPC survey prior to, or at the beginning of, the project.

Some of the final impact indicators (e.g., diarrheal morbidity and malnutrition) will need to be measured on a more continuous basis given that we expect the situations that they measure to vary seasonally to some degree. Larger sample sizes will be needed to detect change in these indicators, anyway, so a separate sampling methodology will be used instead of using the same 30 cluster sample used in the KPC. Larger samples will keep the margins of error (confidence intervals) smaller so that impact can more readily be seen. Anthopometry studies will be done twice a year (most likely in December and July).

4.2.3.2. Program Monitoring

A monitoring system will be set up by the HCV serving as the Health Information System Coordinator. Technical input on the development of this system will be given by FHK's MCH Consultant. The system will most likely be based on a monthly or quarterly reporting forms filled out by CHWs (basic) and the Supervisors (more detailed). The information from these forms will will be entered into an Epi-Info database and analyzed by the HIS Coordinator. Performance indicator "thresholds" will be established and reviewed on a quarterly basis by the project staff. For example, one indicator for staff

performance may be “average number of growth monitoring sessions conducted per week” or “average number of CHWs supervised per month.” The Marsabit Health Team will hold monitoring and evaluation meetings twice a year (following the anthropometry studies), generate a brief report on their findings and prioritize actions.

Monitoring of the *quality* of the CHW’s and Supervisors’ performance (and hence the quality of the project interventions) will be assessed through the use of supervisory quality checklists, pre- and post tests at staff training workshops, and other mechanisms. The Health Coordinator will assess the Supervisors’ performance and the Supervisors will assess the CHWs’ performance. The Country Director will assess the Health Coordinator’s performance.

4.2.3.3. Program Evaluation

The health program will use the same system of annual internal and mid-term and final external evaluations to measure impact. For a full discussion of this plan, please see section 4.1.3.2.

4.2.4. Implementation Schedule

Five-Year Health/Nutrition Program Implementation Plan

ACTIVITY	*1st Q*, FY 1998	*2nd Q*, FY 1998	*3rd Q*, FY 1998	*4th Q*, FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Personnel responsible
Hire additional personnel									
Conduct KPC Survey and initial anthropometry study									
Conduct rapid qual. research on key health/nutrit. behaviors									
Write long-range plan									
Train Supervisors, School Health Coordinator / HIS Coordinator,									
Select / order all training- and other project supplies.									
Contact Village Leaders: Further explain project, organize community efforts									
Develop Health Info. System									
Hire and train Data Entry Technicians									
Establish locations for growth monitoring posts & begin GM									
Quarterly training (and retraining) of CHWs									

Conduct project activities (see figure on next page for details)									
Conduct mid-term evaluation									
Conduct final external evaluation									

Annual Child Health and Nutrition Program Implementation Plan

PROJECT ACTIVITY	O	N	D	J	F	M	A	M	J	J	A	S
Growth monitoring posts / health education (children 0-23 months old); promotion of good nutritional practices and proper management of diarrhea.												
Routine vitamin A supplementation at GM post (children 6 - 23m)[23]												
De-worming at GM post (children 12-23m)												
Community vitamin A supplementation campaigns: defaulters[24] 6-23m and all other children 24-71m of age												
School-based de-worming campaigns (children 5-9 years of age)												
Community de-worming campaigns: Children 2-5 plus defaulters												
Community Health Worker Training												
Anthropometry monitoring and evaluation (weight-for-age, height-for-age, weight-for-height)[25]												
Health Team monitoring and evaluation meetings and report generation												
Regional Supervision												
National Supervision												

[23] Note that all children will NOT receive vitamin A and de-worming medication every other month. Each child will receive de-worming medication twice a year and vitamin A every six months, following international norms. Vitamin A and de-worming medication will be *available* at each post, though.

[24] Defaulters refers to children who do not attend growth monitoring sessions or for whatever other reason do not receive vitamin A supplementation (or de-worming drugs) when they are scheduled to receive it. These children will be identified and will receive the supplementation during community-wide house-to-house campaigns held twice yearly.

[25] We have chosen to do the anthropometry studies in December and July because we expect to find a peak and trough in malnutrition levels in these two months.

5. Complementarity

The interventions in the two programs proposed by FHK complement very well the GOK, cooperating sponsor and USAID/Kenya Mission strategic objectives. In addition, the proposed interventions complement the development activities of other NGOs and the strategic objectives of other major donors in Bolivia. The following sections demonstrate those complementarities.

5.1. Agricultural Productivity and Production Component

5.1.1. GOK Agricultural Strategy

One of the main development priorities of the Kenyan government is to increase rural smallholder agricultural productivity and production. As part of this strategy, the government has committed resources and energy to the smallholder sector. FHK collaborates closely with the MOA in determining regional program priorities and developing complementary activities to increase food production in Marsabit.

5.1.2. FH International Agricultural Objectives

FHI operates relief and development programs in twenty countries throughout Latin America, Africa and Asia. The worldwide goal of FHI is to reduce hunger and poverty. A key objective to that end is to increase food security via agricultural training and extension, crop promotion, agroforestry, marketing assistance, and other related interventions.

5.1.3. USAID Kenya Mission Strategic Objective Related to Agriculture

The Kenya Mission's sub-goal is to increase food security in Kenya. Regarding agriculture, one of the Mission's objectives is to develop and transfer yield-enhancing technologies for smallholders. In addition, due to the chronic food insecurity and drought that has become common to the Eastern Province, the Mission has a strong geographical interest in that area. Both FHK's geographical strategy and planned program objectives concord with the above goal and objective of USAID/K.

5.1.4. Development Activities of Other NGOs

FHI has been very active in coordinating development strategies and objectives the GOs and other NGOs in the area including the Ministry of Agriculture, Livestock Development and Marketing (MOALD&M), the Forest Department,

Kenya Wildlife Service (KWS), and the German Technical Assistance Program (GTZ)/Marsabit Development Programme (MDP). A two year (FY 96-98) District Development Plan of Operation was drafted by the above group members specifically to encourage complementarity. The Food Security Program interventions have been designed in line with this overall strategic plan to realize food security in the region. GTZ/MDP is a closely related program that is promoting food security in the District with different target groups.

In addition to the proposed USAID Title II funding for its agricultural activities, FHK expects to receive resources from FH U.S., FH Korea, FH Canada, the GOK and GTZ.

5.2. Child Health and Nutrition Component

5.1.1. GOK Health and Nutrition Strategy

The GOK's Sectoral Policy Objectives of the Ministry of Health's District Development Plan (1997-2001) include several objectives which will be partially met through this project, including:

- providing health services within easy reach of all Kenyans, with emphasis on preventive, promotive and rehabilitative care;
- increase coverage and accessibility of health services; and
- train[ing] the communities on safe water, nutrition, hygiene, and sanitation.

FHK currently works very closely with the MOH at both the national and local levels. Many of the health education and training activities that are carried out in the program are directly coordinated with MOH representatives in the zones of operation.

5.2.2. FH International Health Objectives

As stated above, the worldwide goal of FHI is to reduce hunger and poverty via an integrated development approach. In its Development Philosophy Manual, FHI states that *"primary health care [plays] a key role in nutrition-related development efforts. Development of food and water resources cannot be in isolation from health [including nutrition]"* (p.5). In that respect, FHK's proposed health and nutrition initiatives concord well with FHI's strategic development objectives.

5.2.3. USAID Kenya Mission Strategic Objectives in Health

As stated above, one of the objectives of the Mission is to improve the prevention of childhood illnesses. In that regard, FHK's planned program objectives concord with the above strategy of USAID/K.

5.2.4. Development Activities of Other NGOs

FHK's current health program collaborates or plans to collaborate with GTZ, the MOH and World Vision. In addition to the proposed USAID Title II funding for its MCH activities, FHK expects to receive resources from FH U.S., FH Korea, the Danish Embassy and the GOK. Other possible future funding sources include the British ODA.

6. Lessons Learned and Responses to Recommendations

The current proposal draws upon four years of FHK experience implementing Title II activities. FHK's unspectacular results in agriculture in 1996 (due primarily to the drought) and FFP/W's disapproval of FHK's 1997 PAA prompted us to reappraise our current strategy in order to refocus our interventions on improving food security under the assumption of continued negative climatic conditions. Although it is impossible to totally overcome drought, this new strategy will seek to promote drought-tolerant seed varieties, soil and water conservation techniques, and improved storage techniques and strategies in order to mitigate the negative effects of future droughts. In addition, the former program failed to address the very serious food utilization (nutrition and health) needs in the target area. FHK is now convinced of the need to address agriculture and health in an integrated fashion in order to have a lasting impact on food security in this drought-prone region.

During the DAP planning phase, FHK coordinated closely with both the local Mission, the other cooperating sponsors and the GOK to ensure that the proposal fit within the objectives of FFP as outlined in the Food Aid Policy Paper, of the local Mission as defined in its Strategic Objectives Document of 1996, and of the GOK as outlined by the District Development Plan.

With specific regard to FFP's disapproval of FHK's FY 1997 PAA proposal in March 1997, FHK has sought to reconstruct the Food Security Program in order to achieve, measure and report on impact. The three main reasons for the disapproval were given as:

1. FHK failed to measure and report on the majority of the impact indicators that were in the MYOP.

2. FHK failed to address in the PAA a number of recommendations made in the 1995 mid-term evaluation.

3. FHK's FY 1996 Results Report (R2) indicated that it was unable to achieve impact in FY 1996 primarily due to drought, tribal clashes, lack of support for the fence project, and a lack of funding due to the FFP suspension of FY 1996 call forwards for Kenya.

The following is a point-by-point response to the issues raised by BHR/FFP as well as proposed changes for FY 1998 which reflect the programmatic decisions that we believe have led to a more robust and developmentally-sound FY 1998 DAP.

In response to the first point that FHK failed to measure and report on the majority of the impact indicators that were in the MYOP, we concur with FFP's appraisal. There are two main reasons for this failure. The first relates to the policies that governed and provided guidance for MYOP proposals. FFP has made incredible progress over the past three years in providing Title II program guidance regarding objectives, interventions, indicators, monitoring, evaluation and reporting. However, that guidance was lacking in 1993 when FHK wrote its three-year MYOP. The majority of indicators in the FFP-approved MYOP were not well enough defined for the purposes of sound measurement and reporting. Given that, FHK was unable in its R2 to go beyond an anecdotal appraisal of impact, which is clearly inadequate and insufficient, but unavoidable given the rules that governed the old MYOP structure.

The second reason for the failure to adequately report on impact was the loss of several important technical staff as a result of the suspension of funding in 1996. In short, due to the need for job security that it could not provide, FHK lost the people who were the most knowledgeable in and the best at M&E. With them went a lot of institutional and program memory that was crucial to good results reporting.

To correct those two problems, FHK, in the current DAP, has clearly developed well-defined and robust impact, effect and output indicators and has designed a solid plan for monitoring, evaluating and reporting those results. In addition, FHK has budgeted for quality technical program staff in the new DAP who will be able to successfully carry out the necessary tasks related to M&E. With these two changes, we believe that the problem of impact indicators has been sufficiently dealt with in the DAP.

The second issue raised by the PAA review committee was that FHK failed in the PAA to address a number of recommendations made in the 1995 mid-term evaluation. Again, we agree. There are two reasons for this. First, the PAA guidelines are extremely short and nowhere do they state that the PVO should address recommendations made in previous evaluations. Second, the recommendations were all technical in nature (e.g., FHK should use caution when introducing the new ox plow to beneficiary farmers). There were no strategic or M&E recommendations made in the evaluation report.

That said, upon request, FHK submitted to both USAID/K and FFP/W (in late March 1997 following the initial disapproval by FFP/W) a complete report of its successful implementation of all the major recommendations made by the evaluation team. In short, FHK fully complied with the recommendations made. USAID/K was satisfied with the supplementary report. Unfortunately, FFP/W gave us no feedback on that document, nor acknowledged whether or not they had taken it into consideration when issuing their final verdict on the PAA submission.

The third issue raised by the review committee was that FHK's FY 1996 Results Report (R2) indicated that it was unable to achieve impact in FY 1996, primarily due to drought, tribal clashes, and lack of support for the fence project. FFP wrote that the PAA did not, however, state how the project would address those constraints.

It is true that the PAA lacked information regarding a proposed FHK response to the four constraints above. This was again due primarily to the very brief PAA guidelines. The guidelines lead one to believe that only a minimum amount of information should be included in the PAA. Upon learning that FFP desired additional information on these four areas, FHK submitted to both the Mission and FFP/W a supplementary section to the PAA. This supplementary report provided an excellent explanation of how FHK was dealing with each if the problems. We received no response from the PAA review committee regarding the information provided in the supplementary report. However, we have since refined our thinking in this area and the response to each problem is listed below.

As mentioned in the text of the DAP, the objective of helping people to have increased food availability and improved utilization even in drought years will form the cornerstone of the new Development Activities. FHK expects to have an impact on availability through the promotion of and training in drought-tolerant crops, water and soil conservation techniques, and improved storage and grain reserve strategies and structures. This work will be complemented by training and inputs in health and nutrition which with the goal of improving the utilization of food especially during lean periods.

With regard to the problem of tribal clashes, the GOK has taken several steps to reduce these clashes in the Eastern District. The fruits of this are currently evident by the lack of serious conflict despite food shortages due the drought of 1996/7. As the major NGO working in Masabit and Moyale, FHK has been able to support the GOK's initiative. It is hoped that this problem will continue to diminish through these various initiatives.

FHK has decided to remove the fence project from the DAP. The sustainability issues raised by FFP require further study and consideration. As such, we will not construct any new fence under the new DAP. However, community fence maintenance will continue to be supported by FHK via training and organization. That said, the responsibility for maintaining and even expanding the current fence will rest with the community and the Kenya Wildlife Service without Title II funds.

7. BELLMON AMENDMENT

The disincentive analysis for FY 1998 is presented in Appendix 1.

8. ACTIVITY RESOURCE REQUIREMENTS

8.1. Financial Plan

8.1.1. Narrative

The majority of the financial requirements for the life of the project will be met by the monetization of Title II wheat flour. This financing will be supplemented by funding from FHI, USAID 202 (e), the GOK, and in-kind contributions from beneficiaries. In regards to carry-in funds for FY 1998, $0 in local currency is expected to be on hand from previous monetization programs. FHK is requesting 3,287 MT of wheat flour in FY 1998, which will cover approximately $631,105 in program expenses. In addition, we are requesting $88,000 in 202 (e) funds for the same year. We are requesting a 10% annual increase in both the monetization proceeds and section 202 (e) funds for the out years of the DAP. The budget line items to be funded in this proposed development activity and explained in detail in the budget tables in the appendix.

8.1.2. Budget Tables

Please see Appendix 2 for the comprehensive, detailed and supplementary budgets.

8.1.3. Local Currency Pipeline Analysis of Monetization Funds

Given that FHK has not received any commodities since mid-FY 1995 and the remaining monetization funds are expected to be used by August 1997, FHK expects to have zero funds and commodities in the pipeline on 30 September 1997. The following table shows FY 1997 activity:

		Local Currency	Exchange rate	US dollar equivalent
1.	Opening balance of funds from prior year monetization (include interest)	KES 3,743,948	LC/52	$71,999
2.	Actual funds received from Monetization during FY 1997	KES 0	LC/52	$0
	(FY 1996 Approved Commodities)	KES 0	LC/52	$0
	(FY 1997 Approved Commodities)	KES 0	LC/52	$0
3.	Interest earned on Monetization in FY 1997	KES 0	LC/52	$0
4.	Total actual expenditure of monetization funds during FY 1997	KES 3,743,948	LC/52	$71,999
5.	Closing balance of monetization funds at end of FY 1997	KES 0	LC/52	$0
6.	Amount of reserve/bridge funding needed to support program operations until FY 1998 Monetization sale(s)	KES 8,204,361	LC/52	$157,776

8.2. Commodities

8.2.1. Annual Estimate of Requirements

For an estimate of the amount of wheat flour to be imported, please see the FY 1998 AER in Appendix 3.

8.2.2. Annual Commodity Procurement Schedule

For the complete plan, please see the ACPS in Appendix 4.

8.2.3. LOA Commodity Requirement Worksheet

For the complete worksheet, please see the CRW in Appendix 5.

8.2.4. Commodity Issues

There are no outstanding commodity issues.

8.3. Human Resources

8.3.1. Organizational Chart

FHK plans to employ approximately 54 full and part-time staff for its Title II-related food security activities in FY 1998, including national and regional support staff, program managers, regional program supervisors, technical staff, promoters, and extensionists. For a full organizational chart, please see Appendix 6.

8.3.2. Collaborating Organizations

In agriculture, FHK collaborates at the national and regional level with the MOA. The role of the MOA is to help plan and coordinate the interventions of FHK in national food security strategies and interventions, and to provide extensionist staff as counterparts. In addition, the MOA provides local agricultural technical assistance through its affiliate Kenyan Agricultural Research Institute. In 1995, FHK began to collaborate closely with the Village Development Committees (VDC) in the planning and implementation of program interventions. VDCs will be expected to increase their planning and implementation roles in the future.

In health and nutrition, FHK collaborates closely with the MOH at both the national and regional levels. The MOH provides technical assistance to FHK at the regional level. It is anticipated that this role will increase in the future.

8.3.3. Technical Assistance

For the majority of its required technical assistance, FHK relies on technical staff employed by FHI, MOA, MOH and USAID/K. In specific cases, however, it may use the services of qualified independent consultants. At this stage of planning, it is not possible to know in detail the types and levels of support that will be needed.

9. SECTION 202 (E) GRANT

9.1. Impact of Grant

The goals of Section 202 (e) funding are to strengthen FHK's administration and programs. Specifically, funding will be used to cover mid-term evaluation, impact assessment and audit expenses, staff training, and to improve staff transportation for monetization-funded food security development programs.

Audits: FHI will hire a consulting audit firm to conduct an annual external audit in June in accordance with USAID guidelines. FHI's internal auditor will conduct an internal audit in November yearly, covering financial management and accounting. The results and action plan from the audit report recommendations will improve FHI's ability to account for resources used in carrying out food security activities in Marsabit. The cost of the internal and external audits will be approximately $5,000 in FY 1998, with a 20% increase in each of the following out years.

Evaluation: A consulting firm will be hired to conduct mid-term and final program evaluations in FY 2000 and FY 2002 respectively. The recommendations of the mid-term will help to make necessary adjustments in the second half of the LOA. The final evaluation will report on any impact that has been achieved in the program and will give recommendations for any further activities in that region. The mid-term and final evaluations will cost $15,000 and $25,000 respectively.

Staff Training: All program staff will be given appropriate training to improve their skills and capacities in their respective areas of need. This will include technical areas such as crop rotation and diarrhea management, as well as program monitoring and evaluation, reporting, and budget management.

Vehicles: See procurement plan below.

9.2. Vehicle Procurement Plan

9.2.1. Justification

Three motor vehicles and four motorcycles are needed over the life of the activity in order to replace depreciated vehicles currently used for food security development interventions. In FY 1998, FHK requests authorization to purchase one Toyota Land Cruiser pick-up costing approximately $41,500, and two Yamaha motorcycles costing $7,600 each. In the four remaining years in the LOA, FHK proposes to purchase one vehicle and two motorcycles in FY 1999 and one vehicle in FY 2000. The table below outlines the vehicle proposal for FY 1998 – 2002.

Table: Vehicle Procurement Proposal

Fiscal Year	Vehicle Make and Model	Planned Uses	Estimated Cost per Vehicle	Total Cost
1998	1 Toyota Land Cruiser Pick-up HZJ75	Agriculture and Health/Nutrition Program Activities	$41,500	$41,500
	2 Yamaha DT175 motorcycles	Agriculture and Health/Nutrition Program Activities	$7,600	$15,200
1999	1 Toyota Land Cruiser Station Wagon Hard Top	Agriculture and Health/Nutrition Program Activities	$52,000	$52,000
	2 Yamaha DT175 motorcycles	Agriculture and Health/Nutrition Program Activities	$8,000	$16,000
2000	1 Toyota Land Cruiser Pick-up HZJ75	Agriculture and Health/Nutrition Program Activities	$45,000	$45,000
Total	**3 Vehicles & 4 Motorcycles**	**Ag/Health Use**		**$169,700**

9.2.2. History of Procurement

We believe that our request for three new Toyota vehicles and four Yamaha motorcycles over the LOA is justified based on the fact that the current fleet of two vehicles and four motorcycles are insufficient for the proposed program expansion and will be depreciated by 1998. The table below gives data on FHK's current fleet.

Table: Current FHB Vehicle Fleet

Vehicle	***Year Purchased***	***Condition***	***Planned Liquidation***
Toyota Land Cruiser Wagon	1994	Good	1999
Toyota Land Cruiser Pick-up	1994	Good	1998
4 Yamaha DT 175 motorcycles	1994	Fair	1998
1 Yamaha DT 175 motorcycle	1993	Poor	1998

Vehicle policy: FHK has a vehicle policy which ensures that all vehicles are well maintained and used properly. FHK has comprehensive insurance cover for all vehicles.

Vehicle account: All FHK vehicles have their own accounts, opened as soon as they are purchased. FHK charges a kilometer rate for vehicle usage, debited to their accounts. The money covers the cost of fuel, maintenance, insurance, and depreciation. Vehicles log sheets are kept, and Programs are charged accordingly for kilometers traveled.

Driver/Mechanic: FHK employs drivers who are qualified and experienced motor mechanics. They do all minor repairs and servicing of the vehicles at their station of work. In addition, they do routine checks and servicing of all vehicles after traveling.

Garage shed: FHK has constructed a garage at the Marsabit regional office and it is now being equipped to do minor repairs and servicing of vehicles.

9.2.3. Justification for Non-US Makes

US-made vehicles and motorcycles are not available in the Kenyan market. The dominant supply is from the Far East and Europe. If FHK were to import US-made vehicles, there would be no availability of service and/or spare parts, thus making it very impractical to use as program vehicles. Toyota vehicles and Yamaha motorcycles have proven to be excellent for transportation in the rugged regions where FHK works.

9.3. Equipment Purchase

There are no planned purchases of equipment in excess of $5,000 each.

9.4. International Travel Plan

There will be no international travel budgeted under the Section 202 (e) grant.

9.5. Funding Priorities

In the event of funding at 75%, FHK would forego the staff training and one motorcycle. In the event of 50% funding, FHK would cut the two motorcycles and staff training and make cuts in administrative expenses (allocated costs).

10. MONETIZATION

10.1. Rationale for Monetization

10.1.1. Monetization as Effective Resource

Monetization of Title II Commodities has been found to be a very efficient and effective method of supplying needed funding to FFP projects in Kenya due to a variety of factors. All of the funds required by the Food Security Programs, either currently operating in the region or proposed for FY 98, are to be utilized in Kenya Shillings. Traditionally, this local currency requirement has been an important consideration in the Monetization process. Kenya now has a "liberalized" economy where currencies are readily convertible, however, there are still the inevitable currency exchange risks and high conversion commission fees which favor a Kenya Shilling based sale to meet the local financial commitments of the NGOs.

Monetization offers the added benefit of the supply of a commodity which is required for import by the market and thus, another Food Security goal is being met by ensuring that sufficient grain will be available for local food consumption. This existing demand means that the sale is not only justified in terms of meeting the required FAS minimums and achieving cost recovery, but it is possible also to maximize the funds being offered by USAID. By obtaining a slightly higher price than anticipated due to market conditions, funds for the following year can be provided as carry over which lowers the future commitments of USAID by generating income.

Additionally, the formation of an Umbrella Monetization Group in Kenya allows for several advantages both to USAID and to the NGO's operating food security programs. USAID has the administrative responsibility for overseeing ONE commodity shipment, thus one Call Forward, one set of paperwork and one bulk shipment to audit. The NGO's benefit through minimization of technical assistance required and maximization of bargaining power to ensure an effective sale at the desired price. Traditionally, grain imports into Kenya are undertaken on a large scale and, as such, a higher quantity is more desirable and has greater opportunity for full cost recovery than several small shipments. It has also been found that as the NGO's join together in the Monetization process, this leads to the sharing of technical and personnel resources and ensures that the Food Security Programs have complementary goals. By avoiding overlap, the programs' maximum effectiveness and funding is realized, thus providing the maximum benefit towards meeting the USAID Strategic Objectives and the overall Food Security situation in the country.

10.1.2. Monetized Food Aid in the Market

The Kenyan agricultural and financial sectors have been recently liberalized and thus, free market forces of supply and demand are now brought to bear on the production, importation and distribution of cereals and other food stuffs. During the 96/97 growing season in Kenya, there was simply not enough food locally available to sustain the population. Those who are economically disadvantaged found that the sharp rise in prices for basic food stuffs, left them food insecure because there was no food and/ or funds available to purchase. Monetization provides a vehicle to import high quality, reasonably low cost cereals at times when both the structural deficit and if they occur, weather related deficits, cause the prices to increase.

Additionally, Kenyan food consumption patterns, particularly in the urban areas have shifted from the traditional maize meal which is cooked, to the purchase of a loaf of bread which requires no preparation time, and is readily available near employment. Kenya produces only a small quantity of hard wheat which is required to be mixed with local soft wheat in the milling of flour for bread and thus, the Monetization of wheat assists in keeping the price of this basic food stuff low for the marginal consumer.

Commodities listed as available for monetization and which are price competitive in this free market against other export producers, are primarily bulk, unprocessed goods. Thus, though it would be ideal to monetize to small traders, the commodity must be milled or refined and facilities are not publicly available in this country for the milling of any product other than white maize. However, there exist several large scale millers in Kenya and they are all active participants in the monetization process, bidding against each other to purchase the wheat and the Umbrella Monetization Group, through advertising, surveys and word of mouth, has created an atmosphere conducive to the competitive marketing of US wheat.

10.1.3. Specific Uses of Local Currency

In the two food security program components proposed, monetization resources will be used for the purchase of equipment and supplies, the payment of salaries and stipends, transportation costs, the costs related to beneficiary and staff training and by covering a portion of administrative and headquarters' costs.

10.2. Sales Price Analysis

10.2.1. Sales Price Determination

The Umbrella Monetization group or Kenya Food Security Consortium as it is known, would NOT undertake a monetization if, for any reason, it was determined that the required USAID FAS minimum could not be met. However, this is NOT the case. It is expected and justified, by means of extensive market research, that a sale will successfully generate enough proceeds to fund the proposed programs and warrant the monetization.

In order to garner an accurate picture of commercial demand and the fair market value for the commodities in question, an extensive demand/cost survey for the basic commodities offered by USAID under Title II has been undertaken. This document was sent to those who are actively purchasing commodities, either locally or overseas, and includes millers, traders, wholesalers, bakers and any others actively involved in the purchasing process. The local survey input is critical in determining the eventual sales price. Survey respondents provide a firm price that they are willing to pay for the commodity, as well as, information on their monthly and quarterly importation levels. Assertions are made as to the specific commodities that are of interest, the price they are willing to offer and the ideal timing of importation for the quantity required. The survey provides the added benefit of keeping in contact with these potential purchasers who will be actively bidding at the time of the actual sale.

The resulting information is then put together on a grid, with special attention given to the estimated prices that the potential purchasers would be willing to pay as compared to the FAS minimums supplied from the USAID field office and known US liner freight rates, as well as, pricing available from other commodity vendors both locally and internationally. As the Kenyan market is open for importation, international pricing and shipping levels from other competing commodity supplying nations have become increasingly critical in determining an expected sales price and thus, these are also analyzed. This information is then correlated, taking into account duties applicable, inspection, bagging and handling costs and exchange rates.

The first determination resulting from the survey was the choice of wheat as the required commodity for call forward. Other potential options for the Kenya market include Rice (high demand but USDA price 90% higher than others available to Kenya. Pakistani Basmati being the most popular at around $250 MT C&F), Vegetable Oil (high demand but USDA FAS price appx. 45% higher than others available to Kenya. Also refined oil attracts a very high duty), N.F. Dry Milk (limited market but no longer available on PL 480 list) and Crude Degummed Soy Oil (limited market but pricing is competitive). Research has shown that Tallow or

Lard for use in the production of soap would probably enjoy both a high demand and high price, but this is not available on the USDA list.

US Hard Red Winter Wheat shows both high demand and pricing levels that will enable a successful sale at USDA FAS pricing levels, as well as the bulk of cost recovery for shipping.

In order to avoid confusion about exchange rates, the Market Survey requests estimated purchase pricing in Kenya Shillings, the currency in which DAP budgets are utilized. The KSh to US Dollar exchange rates have held quite steady over the past 18 months, largely as a result of economic policies instituted by the IMF and IBRD. However, prior to that, the Kenya Shilling suffered relatively major appreciations and depreciations in value against the US Dollar and one must always guard against the possibilities of exchange losses. Thus, given the past two year performance of the Kenya Shilling, a conservative projected exchange rate of Ksh 52 = USD$ 1 is being used for sales price determination which reflects the average of 54 for the past 18 months minus the Ksh 2 difference between buy and sell.

In accordance with both Bellmon issues and economic common sense, local producer pricing is an important sales price determinant. This is especially true in Kenya where protective duties have in the past been imposed to bring imported landed wheat and other imported commodities to par with local producer pricing. Thus, historical trends and local pricing for the last harvest of wheat have been assessed, as they will directly impact the pricing levels achieved in the proposed Monetization sale. However, given the climactic variations over the past growing season, predications can not yet be made as to the harvest amount, timing or farm gate pricing levels applicable to the FY 97/8.

Year	**KSh /90 KG bag**	**USD$ / MT(@ exchange in effect)**
1993	1600	311
1994 (1st 1/2)	1100	214
1994 (2nd 1/2)	1300	253
1995 (1st 1/2)	1400	272
1995 (2nd 1/2)	1600	311
1996 (1st 1/2)	1700	331

Proposed estimated duty paid sales prices from the purchasers responding to the market survey range from Ksh 12,320-12,650 MT (@ Ksh52=USD1 $236-243). One must then take into account expenses for bagging and inland, which are about $25 per MT for a comparison to what these buyers are paying for local wheat. These seem to be accurate and exceedingly realistic figures which could be realized in the sale. They also appear to reflect some slight preference for US Wheat and the knowledge that they are being purchased from a reliable source.

However, the above table does not take into account wheat available into the Kenyan market from other competing producing nations.
World market research has shown that wheat from Argentina is arriving at Mombassa CIF $170-180 and from Australia CIF $180-190. Both these countries have enjoyed considerable exports to Kenya in FY97 as a result of excellent harvests and though their stocks are now low, next years harvest is expected to be just as good. An October or November Call Forward could allow the Umbrella Group to sell and ship before the southern harvest are completely ready for shipment.

As the variable “anti-dumping” duty which served to equalize the pricing differential between domestic and imported wheat, has recently been replaced with a flat percentage and/or per kilo duty, the US has lost much of its competitive advantage in this market. Subsidized ocean shipment rates also effect the pricing of this highly competitive commodity and thus it may not be possible to recoup the entire $60 requested for USAID for shipping services when compared with $20-40 freight available in the commercial market from Argentina and Australia.

It is in the best interest of both USAID and the programs themselves to be realistic in their pricing expectations, thus the sales price utilized for the purpose of the call forward is an average of $210 (duty paid high side available from other sources) and $250 (market survey and local wheat), for an estimated duty paid CIF of $230.00 per metric ton. As the purchaser will be required to pay for any duty and taxes levied, the call forward is based on the C&F amount of $192 per MT which is the on-board figure before offloading and duty. Using this formula, the Umbrella Monetization group has confidence in its ability to recoup the required FAS price, and most of the expenses of CIF, thus achieving the maximum funding possible for the programs.

FY 1998 PROPOSED SALES PRICE

Estimated FAS per MT:	$	169.00	
CIF Value w/$60 frt.:	$	229.00	
Expenses Recovered C&F:	$	33.00	
Proposed Sales Price MT:	$	192.00	Exclusive of Duty
Proposed Sales Price w/ Duty:	$	230.00	

Amount of Wheat Flour Imported in FY 98: 3,287 MT
Estimated Local Currency Generated: $631,105 (32,817,460 Ksh)
Estimated Interest: $6,311 (328,177 Ksh)

The study undertaken of local/international market conditions confirms that the budget requirement presented in this DAP will be met and there is sufficient demand to ensure a viable sale. This would be the primary motivation for the Monetization and should be sufficient justification. The sale will be conducted so

that the purchaser is responsible for the applicable duty at time of import, thus, call forwards will be made on the basis of C&F value stated in the Purchase Agreement of approximately $192/MT which shall exceed the required FAS value and recoups the bulk of the Ocean freight applicable to the shipment.

10.2.2. Timing of the Sale

The Market Analysis requested respondents to specify their preferred time of commodity arrival. Additionally, local harvest times, traditional imports by month and expected food shortages, which affect both food security issues and create best price scenario, have been taken into account. The ideal time for commodity arrival is mid February to late May. This translates into a negotiated sale and Call Forward during the October to January purchase window and allows for some flexibility in terms of DAP approvals, etc. Thus, a November or December call Forward would be ideal, January acceptable, but would result in a delay of project startup and a February Call Forward date would be less desirable due to several factors: anticipated port congestion, arrival of other imports (especially maize) and transit time to market resulting in actual Nairobi arrival of mid July to early August when local maize harvests are coming to market and creating some potential disincentive, however, it is still possible to complete a successful sale at that time if the other deadlines deadline cannot be met due to delays in the approval process.

10.3. Sales Procedure

It is anticipated that the sale would be undertaken by the Monetization Consultant to the Umbrella Group, Ms. Kimberly Smith. Ms. Smith has been working with the group since its inception and her expertise is in the field of commodity trading and contract negotiation. Additionally, Ms. Smith has developed the market survey, done the sales price and Bellmon analysis for this DAP and is completely up to date with market forces. Thus, the group is very confident that she is capable of handling the sale. The proposal is to follow the same procedures which she has successfully utilized in the past in Kenya which is a Formal Request for Offer basis in accordance with the following schedule and methodology:

Prior to submission of actual call Forward, all parties who have responded to or been contacted in the survey will be advised of the impending shipment; amount and type of commodity, etc. and sent a copy of a formal tender complete with specifications, offer due dates, bid bond requirements and accompanying terms and conditions of sale. Tender availability will also be advertised in both the commercial journal and the business section of the daily newspaper in order to ensure maximum participation.

There will be a formal bid opening and offers received by the due date will then be evaluated. Direct negotiations will be undertaken with the three (3) highest bidders. The highest offer post negotiations will then be requested to pay a five (5) percent cash deposit and arrange for bank guarantees for the remaining balance of ninety five (95) percent. This balance to be paid forty-five (45) percent at arrival Mombassa and fifty (50) percent thirty days after off loading and inspection. The signed contract will be in full effect upon receipt of the deposit and a call Forward will be issued to USAID.

As Catholic Relief Services (CRS) is the lead agent, they will be responsible for both contract signature and receipt of funds at each tranche. They have the staff, accounting procedures and bank accounts required to ensure proper handling of the funds as received. The funds will then be distributed pro rata to each of the approved NGO recipient members for deposit into their respective accounts. The initial deposit payment being the exception, as it will be held until commodity arrival, and then utilized to pay shipment related expenses: SGS, consultants, lawyers, etc. with the balance available for distribution.

The sale and call forward are timed for the first quarter of FY 98, October-December 1997. This timing meets two objectives:
1) it is the ideal time for receipt of wheat into the Kenyan market as arrival January to March coincides with the beginning of post harvest shortages and thus fetches the highest price and
2) as it follows immediately after DAP approval, it allows the programs to receive funding and begin the implementation process as soon as possible.

Vegetable Oil and CSB are both viable commodities if a sale is considered to an International Aid Organization, such as World Food Programme (WFP). This is largely because WFP purchases processed commodities and thus, the price difference is equalized as the USDA FAS plus shipping, is lower than the fully processed and delivered price they are privy to in the local retail market. The sales procedure in effect for a sale to WFP would be a negotiated contract at the full cost recovery level. The FY 97 Off Cycle Monetization found that given the extreme drought and nationwide Food Security problems, a sale to WFP was both positive in terms of impact on the nations poor and practical in terms of duty free clearance which allayed the requirement for GiK from GOK.

A variety of socio-political factors are currently at play in the Kenyan economy and thus, the Umbrella Monetization Group remains ready to react to changes in potential sales prices, duty levels and or food security issues. Thus, the consultant retained is constantly monitoring the situation and sales and marketing information is readily available on these and other commodities, so that in the event of a change in the status of wheat, the Umbrella Monetization group can remain flexible at the time of Call Forward and consider other options according to changes in USDA FAS pricing and local market conditions. Full cost

recovery is the important goal here all the NGOs participating in the Umbrella Monetization Group are willing to react accordingly to ensure that this goal is met.

10.4. Sales Proceeds Management

10.4.1. Financial Institution

Proceeds realized from the Monetization will be deposited into FHK's account held at ABN AMRO Bank NAIROBI Branch, which currently earns 14.75% annual interest.

10.4.2. Proceeds Monitoring and Accounting

FHK monitors and accounts for all funds using Sun Systems Accounting Software package. This software is very powerful and allows for excellent tracking and control of all income and expenditures. FHK has a head accountant and assistants in the Nairobi Office and a field accountant in Marsabit. In addition, an East Africa regional accounting manager based in Nairobi engages in the training of accounting staff and provides management oversight and supervision.

10.4.3. Umbrella Monetization

The FY98 proposed Monetization is being undertaken on a joint basis among members of the Kenya Food Security Consortium with the lead Agent being Catholic Relief Services. The Consortium members have all signed and Inter Agency Monetization Agreement which specifically delineates the responsibilities of the lead agent and the participating Cooperating Sponsors. A copy of this Agreement is attached as Appendix 7.

It is believed that by cooperating and combining resources, the process will be greatly streamlined, making it more cost effective for both USAID and the Cooperating Sponsors and by providing greater collective bargaining power (versus competing interests) will garner a higher rate of return for commodities Monetized. For these reasons, the NGO's have signed an Inter- Agency Joint/Umbrella Monetization Agreement (attached) which clearly describes the legal relationships, roles, allocation process, etc.

In Summary, the Kenya Food Security Consortium (KFSC) has chosen Catholic Relief Services as the Lead Agent based on their previous experience with Monetization. Their country director thus becomes the chairman of the Monetization Committee (MC) which also includes one representative from each Cooperating Sponsor and ex-officio members include the USAID FFP country

representative, Mr. George Mugo and the Monetization consultant hired by the KFSC, Ms. K.H. Smith.

This committee has the power to oversee and approve all the activities which form a part of the Monetization process. Each Cooperating Sponsor is responsible for preparing their own budget and AER to be presented to USAID simultaneously to actuate one Call Forward. The actual sales contract will be in the name of Catholic Relief Services and they will allocate the funds according to the AERs for each organization minus expenses incurred. Any remaining balance achieved by a higher sales price will be distributed on a pro-rata basis to all signatory Cooperating Sponsors.

The Inter-Agency Agreement is for a three year period and thus the KFSC anticipates placing one Call Forward together annually for the life of their projects which should substantially reduce the time, energy and funds of USAID for the management of these projects.

10.5. Title III Support

There is no Title III funding anticipated for the LOA.

10.6. Vehicle Procurement Plan

There are no planned vehicle purchases for the LOA using monetization funds.

11. HOST COUNTRY FOOD FOR PEACE AGREEMENT

Please see Appendix 7.

12. REFERENCES

Bundy, D.A.P. (1990) *New initiatives in the control of helminths. Transactions of the Royal Society of Tropical Medicine and Hygiene.* **84**: 467-468.

Food and Agriculture Organization, (1997), *FAO Production Yearbook.*

Government of Kenya, (1996), *Social Dimensions of Development Policy and Strategy.*

Halloran, M., Bundy, D., et al. (1989). *Infectious disease and the UNESCO basic initiative.* Parasitology Today, **5**: 358-362.

Latham, Michael C. (1983). *Dietary and Health Interventions to Improve Worker Productivity in Kenya.* Tropical Doctor, **13**: 34-38.

Lathan, M. and Stephenson, L. (1981*). Kenya: Health, Nutrition, and Worker Productivity Studies.* World Bank, Washington, D.C.

Marsabit District Agricultural Office, (1996), *Crop Production Trends.*

Ministry of Planning and National Development (1996), *Marsabit District Development Plan: 1997-2001*

PRITECH, MSH. (1988). *Improving Young Child Feeding During Diarrhea: A guide for investigators and Program Managers.*

Seinkuller, P.G. (1983), *Nutritional Blindness in Africa*. Soc. Sci. and Med., **17**(22): 1715-1721.

Stephensen, L., Lathan, M et al. (1993). *Physical Fitness, Growth and Appetite of Kenyan School Boys with Hookworm, Trichuris trichiura and Ascaris lumbricoides Infections Are Improved Four Months After a Single Dose of Albendazole.* American Institute of Nutrition, Publication 0033-3166/93.

UNICEF, (1997), *State of the World's Children.*

USAID, Macro International, Inc., IMPACT (1996), *Nutrition and Health Status of Young Children and Their Mothers in Kenya.* Findings from the 1993 Kenya Demographic and Health Survey.

USAID, (1995), *Food Aid and Food Security Policy Paper*.

USAID/Kenya, (1996), *Strategic Framework.*

Vella, J. and Uccellani, V. (1993), *Learning to Listen to Mothers.* Produced in collaboration with the Academy for Educational Development with support from USAID, contract no. DAN-5113-Z-00-7031-00.

World Health Organization. (1983), *Measuring Change in Nutritional Status.*

13. APPENDICES

The appendices follow.

APPENDIX 1

FY 1998 Bellmon Amendment Disincentive Analysis

Summary

It is widely acknowledged that at least 36 of Kenya's 63 districts are suffering from a current food crisis. President Moi has declared a national disaster and the Government of Kenya, leading international NGO's and organizations, as well as the private sector, have all joined together to try and feed the citizens of this nation.

The primary food deficit is caused by the unavailability of maize that is the staple food of the bulk of the population. Several factors have contributed to the shortfall in maize production and according to USAID Famine Early Warning System (FEWS) 45% of the shortage can be attributed to a structural deficit, the amount of maize grown versus consumed; 23 % can be attributed to the crop shortages over the long rain period which are largely the result of weather, low farm gate prices and high input prices causing a shift from maize production; and 32 % can be attributed to the failure of the short rains resulting in a marginal crop, at least 40 % below normal.

Figures issued from private and public agencies, Government and press releases differ, however, it can safely be assumed that there exists a shortfall between urgent consumption requirements and current availability of 7-14 million 90 Kg. bags of maize. As of March, the GOK estimated approximately 639,000 MT would be required while FAO has now revised their figure to 1.3 million MT. The Government of Kenya and major donors have already moved to import about a quarter of the requirement which they intend to distribute to needy populations. The balance of all foodstuffs required is expected to be imported and supplied by the private sector.

Kenya has over 100,00 hectares under wheat production, which amounts to about fifty (50) % of domestic annual consumption estimated at 522,000 metric tons per annum. Though production levels are steadily increasing, demand is also increasing and the annual deficit of some 250,000 MT needs to be imported. However, for calendar ’97, projected imports are closer to 320K MT. Thus, wheat importation is not only a standard commercial procedure, but also a dire necessity to meet food security requirements in the region. The market is liberalized with supply and demand pricing, though some imports are cheaper than local production and the Kenyan Government takes its own steps to ensure this does not create disincentive for local farmers by imposing duties during harvest periods. A proposed Umbrella Monetization shipment of Wheat in the amount of approximately 26,000 MT is timed to arrive during the peak shortage period and will show no disincentive effects.

National Domestic Cereal Consumption	3,600,000 MT
Amount to be imported for FY 98 Umbrella Monetization	26,000 MT
Proposed Monetization as Percentage of Kenyan Cereal Consumption	0.7%
National Domestic Wheat Consumption	522,000 MT
Amount to be imported for FY 98 Umbrella Monetization	26,000 MT
Proposed Monetization as Percentage of Kenyan Wheat Consumption	5 %
Estimated Total Commercial Wheat Imports into Kenya for 1997	322,900 MT
Amount to be imported for FY 98 Umbrella Monetization	26,000 MT
Proposed Monetization as Percentage of Total Wheat Imports	8 %

The overall import figures include food aid (WFP 32,400 MT), as well as commercially imported wheat. The monetized wheat will be sold at commercially viable price levels for imported wheat and thus, meet the Usual Marketing Requirements Analysis, especially when considering that up to forty (40)% of annual wheat imports into Kenya originate in the United States and thus no normal trade patterns are disrupted.

A. Agricultural Sector Overview

Kenya is fortunate in the African context to have a liberalized free market economy and a fairly healthy agricultural sector. Farms are privately held and are a mix of small subsistence, mid level cash crop and large producing and exporting farms. However, due to the fact that several climatic conditions are existent in its geography, there are regions that frequently experience low rainfall, frequent drought and resulting crop failures.
Most of the NGOs presenting DAPs to be funded through Monetization for FY 98 are involved in increasing food security in these drought prone regions and the existing programs have had great success in training farmers to deal with these adverse conditions. Other less volatile areas are capable of producing large

crops, yet Kenya remains a net importer of certain staple foods and in times of regional drought these imports become even more critical to meeting the food consumption needs of the people.

Government policy in recent years has been largely protective of Kenyan farmers and duties have been imposed to equate the costs of imported grains to those locally produced. There are factors though, which are beyond the control of both Government and the farmers. In 1996/7 these have been: low rainfall resulting in lower maize production, shift from maize to wheat as a result of price drops the past two years and an increase in the price of inputs for maize and wheat, specifically DAP fertilizer which has increased from Ksh 850/bag in 95 to Ksh 1340/bag in 1996 which makes it very difficult for the small holders on limited budgets.

In FY 97 there was a large net food deficit in Kenya for both maize and wheat and thus, the proposed Monetization of wheat will assist the country in achieving food security and will not cause any disincentive effects.

B. Food Needs and Price Effects

As Kenya is now a free market, farmers have the option of producing and marketing those crops that bring the highest price. It can clearly be seen that due to price and payment problems in the maize sector over the past few years, there has been a shift to increased wheat production, which is the countries second largest cereal in terms of both production and consumption. However, Kenya remains a net wheat importer for approximately half of its annual requirement and thus no disincentive will be shown for the importation requested for Monetization for FY 98.

Even under optimal climactic conditions, Kenya is a large net importer of vegetable oil and other basic foodstuffs required for a balanced diet which are also currently in short supply in Kenya, including beans which make up a large part of the local nutritional protein content. The need for food is very real.

According to the Kenyan Ministry of Agriculture, Kenyans will consume 34.2 million bags of maize and at least 5.8 million bags of wheat in 1996/7 or a total cereal consumption of 3,600,000 metric tons, thus projected total food aid as a percentage of cereal consumption is under one (1) % which clearly meets Bellmon criteria. The Food and Agricultural Organization in their report of October 1996 estimates total cereal consumption in Kenya to be 4,191,000 which makes the proposed importation even less significant.

Thus, the proposed umbrella monetization importation of 26,000 MT of wheat equates to approximately eight (8) % of the total import requirement for the year.

Thus, it can clearly be seen that no disincentive can be associated with the proposed USAID donation to be monetized by the Kenya Food Security Consortium.

The World Food Programme carefully tracks and projects cereal shipments and their estimates for cereal imports for the calendar year of 1997 follow:

Projected Schedule of 1997 Maize, Wheat and Wheat Flour, Rice and Sorghum Arrivals for Kenya by Month

	Maize Commer	**Maize NCPB**	**Maize WFP**	**Wheat Comm**	**Rice Comm**	**W/R/S WFP**
Jan	-	-	-	43.7	11.7	4
Feb	59	-	-	46.8	5	4
Mar	56	25	10.1	50	5	4
Apr	100	50	10.5	50	5	-
May	100	50	5	30	5	5
June	75	55	9.1	30	5	5
July	50	-	-	-	-	5
Aug	50	-	3.5	-	-	5
Sept	40	-	4	-	-	5
Oct	-	-	-	-	-	5
Nov	-	-	-	20	-	5
Dec	-	-	3	20	5	4.4

The amount of wheat brought in under the food aid umbrella is so small in comparison to overall commercial wheat imports, that it can have no effect on the price in a large market economy such as Kenya. Currently, it is the law of supply and demand which rules the price of wheat in Kenya and demand is high, resulting in steadily increasing producer prices. In fact, a 90 kg bag of wheat was going into the mill at Ksh 1100 in 94, 1300 in 95, 1600 end 95 and the 96 harvest is fetching 1700/bag. (Refer to Chart Section 10b).

Production of wheat is steadily increasing. However, in spite of an increase of 40.2% from 76.9 to 107.8 (000 tons) 93-94, demand continued to rise and the level of imports increased almost by almost 15% over the same period.

Wheat Production and Consumption (MT)

Year	**Production**	**Import**	**Total**
1990	190.1	322.6	512.7
1991	195.0	450.0	645.0
1992	125.9	100.8	226.7
1993	76.9	314.4	391.3
1994	107.8	353.1	460.9

Source: 1994 Economic Review

Maize is the closest "substitute" crop and the shortfall in the 96/7 crop has resulted in large scale imports of this basic cereal as well. The projected shortage in the maize crop was evident as early as July of 96 and it was known that it would result in large scale imports of basic cereals. 93/94 was a time of drought in Kenya with imports liberalized in 94 at which time about 10 million bags were imported. 95 conditions however favored a bumper crop of 34 million bags and thus Kenya began to export from surplus at low prices. In 95/96 farmers sold their crops to the National Cereals and Produce Board (NCPB) only to find that there was no money for payment and so they switched to other crops but now the stocks are eroded, weather conditions have been poor and a severe shortage is resulting from the smallest crop in three years. As a result NCPB has depleted its stocks with the distribution of maize in several regions and is already actively importing to try and meet current demands and build up a strategic reserve.

Maize Production and Consumption (million bags) 1

Year	Production	Consumption	Surplus/Deficit
1990/1	25.0	27.9	-2.9
1991/2	28.0	28.8	-0.8
1992/3	25.6	29.9	-4.3
1993/4	20.0	30.9	-10.9
1994/5	34.4	32.0	+2.4
1995/6	29.0	33.1	-4.1
1996/7*	27.0	34.2	-7.2
1996/7**	19.8	34.0	-14.2

*Projected as of November 1996 1 Source Ministry of Agriculture
**Projected as of January 1997 Source FAO Special Alert, FAO/WFP

The food shortages have had a direct effect on wholesale, as well as consumer pricing of basic food stuffs.

The following chart with information supplied by the Marketing Information Branch of the Ministry of Agriculture, tracks average:

Urban Wholesale Pricing of a 90 KG bag of Maize in Nairobi over five years:

	1992	**1993**	**1994**	**1995**	**1996**	**1997**	
January	379	852	1264	803	697	1340	
February	482	807	1224	819	692	1400	(proj)
March	413	745	1338	950	684		
April	503	761	1408	816	721		
May	592	763	1378	770	894		
June	795	753	1372	828	991		
July	1076	792	1262	841	999		

August	950	883	1066	812	996
September	816	993	957	761	1000
October	787	1200	900	711	1119
November	875	1147	875	705	1076
December	841	1159	790	700	1172
Mean	709	905	1153	785	920

From the large increases in price of wholesale maize, already at 100% for Nairobi, and with urban centers farther afield at up to 134% increase, the price effect of the drought is clearly demonstrated and on a retail level, the increases are often closer to 200% already. The increased prices have also surged over into the wheat sector and a loaf of bread has almost doubled from Ksh 20 to Ksh 35 in the first quarter of 1997.

Large imports of maize and wheat have been undertaken in the first quarter of 1997 to allay the shortfall. The FY 98 requested wheat Call Forward would be arriving at the port of Mombassa during the same quarter the following year, thus assisting in meeting the overall demand for cereal.

The most recent report on National Wheat Production and Consumption as published in the Economic Review of Agricultural Production and Marketing 1995 supports the need for importation of wheat by demonstrating that despite increased production, demand is also increasing and thus the dependence on imports to make up the shortfall. Clearly, this import complies with Section 103(c) of PL480 by demonstrating an unmet need and is in addition to huge commercial imports which will still be required.

National Wheat Production and Consumption (million 90 Kg bags)

Year	**Production**	**Import**	**Consumption**
1993/4	2.6	3.1	5.7
1994/5	3.3	2.4	5.7
1995/6*	3.2	2.6	5.8

*Projected

The total proposed wheat import for funding of FY 98 USAID projects in Kenya under Title II FFP program is under 26,000 MT. As a percentage, not of total food consumption in the country, but of cereals alone. this is well under one (1) %. To state the case even further, as a percentage of wheat imports alone for 96/ 97 estimated at 322K MT, this represents only eight (8) percent. As a percentage of wheat consumption in Kenya, less than five (5) percent. Thus, it can clearly be seen that no disincentive can be associated with a USAID donation.

C. Government Policy Effects

The theory that food aid can depress domestic food prices was a topic of great interest in FY95/6. Unfortunately, this controversy was based on misconceptions about the utilization and quantities of commodities imported into Kenya. The wheat farmers of Kenya called for a meeting with USAID and the US Embassy and requested that they cease and desist from the donation of wheat into Kenya. What they learned at that meeting was that imported donated wheat accounts for less than ten (10)% of annual wheat imports and that it has been sold on the open market for a higher price than locally produced wheat. Thus, the impression that "donated dumping" was resulting in low prices was dispelled, but it was already too late as the GOK had decided to impose duties on all donated food commodities unless for direct food distribution, theoretically to protect the local market and encourage increased production. The direct result of this policy is that in 1996, program and other bilateral food aid imported into Kenya, was virtually non existent. Thus, certain target populations who would normally have been receiving food even during a non emergency scenario, were denied. Already weakened, the drought and subsequent non availability of food, even for those who can afford it, has worsened the current crisis.

It may be true that some unscrupulous traders were managing to import sugar and wheat into Kenya while posing as registered NGOs but this practice has now been halted at the expense of legitimate donations being taxed. The learning process has been important in the overall scheme of understanding the importance of the Food Security projects in place or planned and the GOK has agreed to rebate the duties paid by a Contribution in Kind system that will allow their active participation as development partners with the NGOs operating in Kenya.

Government policy in terms of wheat has not radically changed over the past few years, only the levels and types of duties utilized to protect the farmers from "unfavorable external competition"1 by putting landed cost of imports at par with domestic pricing. This has been a successful policy, as wheat production has increased, however "the country is still a deficit producer of wheat with 45% of the National requirement imported".[26] Increased production of wheat "ranks high in the Government agenda for promoting agricultural production and the overall food security objective". Unfortunately, production levels will not meet consumption levels for many years to come and the result is increased demand, increased prices and thus an increase in the retail price of 500g white bread, a staple food, from 94 average Ksh 15 to over Ksh 20 at the end of 95 and as of 97 it can be as high as Ksh 35.

[26] Economic Review of Agricultural Production and Marketing, 1995

It appears Government sees their role as seasonal protector of the local farmers and thus, the duties are raised at harvest time and lowered when imports are required. This can be seen from the attached summary of duty rates, which were lowered in June and now raised again in November and were expected to be lowered again by the first quarter of 1997 , (as they were December of 1995), as it has became obvious that major imports would be required, however, the lowering of wheat duty has not yet been implemented as the Treasury has been occupied taking all duty of maize, rice and milk through the end of June, 1997 to allow for the importation of food for distribution and meet the shortfalls caused by the drought.

Prevailing CIF prices and Import Duties for Wheat

1st March 1995 - Duties were then structured as an Import Reference Price and a domestic reference price, the difference was equal to the applicable duty.

Import ref: Ksh 9,746.7/MT Domestic ref: 12,221.0/MT

Then the following budget restructured the system:

	Prevailing CIF Price	Sh/MT	Total Import DutySh/MT
15 June,95			
Sh 1.35/kg &	1,350		
15% of CIF price	13,598	2,040	3,390
Effective rate of import duty			24.9%
22 Dec, 95			
Sh .945/kg &	945		
10.5% of CIF price	13,720	1,441	2,386
Effective rate of import duty			17,4%
18 June, 96			
Sh 2.0/kg OR		2,000	
15% of CIF price	12,090	1,814	2,000
Effective rate of import duty			16.5%
01 November, 96			
Sh 3.5/kg OR		3,500	
25% of CIF price	12,090	3,022	3,500
Effective rate of import duty			28%

This latest increase in duty was directly tied to the harvest coming out of the Rift valley which is the largest wheat producing area of Kenya. Crops continue to reach market until the end of December at which time the duty is generally decreased. However, there has been cheap imported wheat coming into Kenya from Argentina and Australia from November 96 through the first quarter of 1997 and so these measures of protecting farmers short term over the harvest period may be quite effective.

However, it is believed that long term, the GOK is well aware of the need for imported wheat and will adjust policy accordingly. Spokesmen from the Ministry

of Agriculture confirm this policy, as well as the fact that they had ideally wished to target imported soft wheat which is in direct competition with local production, but that the Customs officials had few methods of differentiation and so they raised duty across the board as a temporary measure. The US Agricultural Attaché is pushing strongly for the differentiated duty and is prepared to offer technical assistance which would assist in the transition.

In the 1996 Budget, wheat products changed from being zero rated for VAT purposes to being exempt from VAT which ultimately lowered the cost to the final consumer.

Also of interest is the change in duty on maize imports from an effective rate of 41.0% in June 1995 to an effective rate of 18.6% in June 1996 and 17% in January 1997 and as a result of the food deficit the maize duty has been abolished through mid 1997. While this "sliding scale" of duties may not seem a coherent policy, it does in fact accomplish the objectives of protecting farmers at harvest time and encouraging imports at times of market deficit.

For the purposes of the proposed USAID FY 97 importation of wheat, a duty rate of a maximum of fifteen (15) percent is being assumed, although it could well be lower by the time of shipment arrival in March/April.
The fact that Government has now acknowledged the food deficit by lifting duty on maize, pulses, milk and rice for both relief and commercial imports by an act of Parliament is, in fact, a strong statement for the urgent need for food imports. GOK relies heavily on custom duty and taxation of these imports.

D. Changes in Food Consumption Patterns

The previous information regarding cereal requirements for the country of Kenya clearly demonstrates that the people are consuming wheat and if there is a change in their food consumption habits, it is an increase in their wheat consumption. This may be a result of the urban populace finding it easier to buy a loaf of bread than prepare "ugali" or "posho" from maize meal. Thus, there is no disincentive or change of consumption habits associated with this proposed Title II import.

E. Distribution Effects (Title II Programs)

Of the proposed projects being submitted for funding under FY 98 Title II Umbrella Monetization for Kenya, only CRS who is presenting a PAA, includes the direct distribution of food aid. The CRS program is highly targeted in terms of beneficiaries and no disincentive is seen.

The four provinces where CRS will distribute food; North Eastern, Rift Valley, Nyanza and Central Districts, are all extremely food deficit regions due to the climatic conditions - all are arid or semi arid. Additionally, the program only distributes supplemental food stuffs of CSB and vegetable oil to malnourished children under two and "at risk" pregnant/lactating women all of whom must meet a specific criteria in order to qualify.

None of the recipients are at an income level where disposable income is an issue and the food is distributed free of charge. The Government of Kenya does have some food distribution programs in these severely food insecure areas, however, it is not Title II related and the commodity comes from NCPB stocks. Total proposed food for distribution by CRS of 1500 MT of CSB and 120 MT of vegetable oil to be consumed by 25,000 beneficiaries amounts to approximately .5 kg CSB per person per month which certainly is not enough for them to sell. The PL 480 food aid in this case will be consumed only by those targeted beneficiaries who are acknowledged by their communities to be in need and thus there is no distribution effect.

F. Food Storage Facilities and Handling Capabilities

F.1. Port

The proposed commodity shipment will be Arriving into the Port of Mombasa which is managed by the Kenya Ports Authority and is ideally situated for the purposes of this shipment.

F.1.1. Facilities

The Port boasts over 16 deep water berths and a total quay length of 3,044 metres and facilities include:

13 cargo berths, 3 Container Berths, 3 Dry Bulk Wharves, etc..
4 Ship to Shore gantry, 11 Tyred gantry, 7 top loaders, etc.
53 traveling cranes, 43 mobile cranes, 19 fixed cranes, etc.

F.1.2. Operations

The Port is known for its efficiency and serves as the major inland arrival for many area Nations. The Port is operated by a Board of Directors and includes Kilindini Harbour, Port Reitz, the Old Port Tudor and the whole of the tidal waters encircling Mombasa Island.

F.1.3. Projected Arrivals

While substantial commodity shipments have been entering the Port early 19987, to make up for the shortfall and some congestion may be experienced, the Port has recently increased it general cargo area to handle increased shipments and they assure that no major delays can be expected. Additionally, Grain Bulk Handlers, Ltd. is constructing bulk handling facilities to handle any kind of grain, pulse or rice in bulk. This project when completed, will result in reduced shipping and handling costs and reduced port congestion.

F.2. Storage

The Port Authority itself boasts:

13 main quay Transit Sheds (105,490 s/m),
7 back port sheds (46,000 s/m)
1 cold store w/ 8 chambers (1247 s/m)
1 customs warehouse (4,002 s/m)
Stacking Grounds (114,117)

This does not include the huge square footage under private ownership which nearly double the storage facilities available. One such private company is Grain Bulk Handlers mentioned above, they have 67,2000 MT of storage capacity primarily for transit and will be building additional bulk storage facilities to accommodate emergencies such as Kenya is currently experiencing.

F.3. Transport

Cargo from the Port reaches inland or transit destinations either by road or by rail. The Mombasa road is the direct link between the port and capital cities. It is currently under renovation which should make it an even faster link, current transit time is 10 hours by truck.

The rail service is direct and is equipped to handle containers although advanced booking is advised. Additionally, inland container depots in Nairobi, Kisumu and Eldoret assist with the flow of goods throughout Kenya.